



**FROM ROOTS TO REMEDIES: A DEEP DIVE
INTO CUSTOMER SATISFACTION WITH HERBAL
MEDICINE IN KLANG VALLEY, MALAYSIA**

**Tan Keing Boon,
Nur Azizah Binti Buchari,
Heather Marie Boudville,
Renuka Balasubramaniam,
Hamshini Esuthasu,
Kumaran Kanapathipillaiⁱ**

Faculty of Business and Technology,
UNITAR International University,
Tierra Crest, Jalan SS6/3,
Kelana Jaya, 47301 Petaling Jaya,
Selangor, Malaysia

Abstract:

This study examined the satisfaction level of consumers who use herbal medicine to remedy their illnesses in the Klang Valley, Malaysia. Herbal medicine is usually plant-based and does not comprise preservatives or artificial colouring. The herbal medicine industry has rapidly grown worldwide because of the global movement towards alternative healthcare, and disease prevention has become a significant concern. Recently, pharmaceutical companies have been extensively conducting clinical studies and therapeutic trials on herbal medicine supplements as an alternative to modern medicine. With the aid of various private and public sectors, most developed and developing nations have produced and improved various herbal medicines for various illnesses through clinical research. This study focuses on the perceived safety, service quality, convenience, and pricing factors influencing consumers' satisfaction with herbal medicines. Questionnaires were distributed through social media to gather the data. The researchers collected 384 responses from the residents of the Klang Valley using the convenience sampling method. The findings of this study show that perceived safety, service quality, convenience, and pricing significantly influence consumers' satisfaction with herbal medicine in the Klang Valley, Malaysia. However, these factors may also generate a paradox where cautiousness escalates, decreasing the demand for herbal medicines. However, herbal medicine industries in Malaysia can formulate strategies to exploit opportunities to create demand and consumer satisfaction.

ⁱ Correspondence: email kumar.erapintar@gmail.com, frank.erapintar@gmail.com

Keywords: herbal medicine, consumer satisfaction, perceived safety, service quality, convenience, pricing

1. Introduction

Herbal medicine is a plant-based medicine that is perceived as a natural ingredient with no preservatives or colourings within the medicine. According to (Chaurasia et al., 2022), the term 'herb' within the herbal word shows the alternative expression towards medicinal plants as temporary or permanent treatment and spices for food flavours and colorings. A study reports that nearly 70% to 80% of the population in the advanced world consumed herbal medicine once in their lifetime (WHO, 2008), while approximately 70% to 95% of people from less developed economies still use herbal medicine for primary health care (Robinson et al., 2020). Countries like India, China, Japan, Thailand, and even Germany have improved their traditional multi-herbal medicines through intensive scientific research comparable to the new modern medication systems, with solid support from each country's government. This success has increased the public's confidence in the Herbal medicine industry. Most importantly, herbal medicine can now qualify with proper clinical studies as therapeutic medication and broader market segments as it can be prescribed by real doctors in hospitals and clinics. Herbal plants have been used as a therapeutic medicine for a long time in Malaysia's medical system. Herbal items are used as a supplement to the medication prescribed to patients. According to (Ahmad et al., 2015), the Malaysian herbal medicine industry has been marked as a new source of growth and identified as one of the entry points projects under the agriculture new critical economic areas in the economic transformation program, which commenced in early 2011. The Malaysian economy is always blessed with mega biodiversity, natural flora, and fauna, with more than a thousand plants identified as containing medicinal values. In Malaysia, homegrown medications are typically expended among Malay pregnant mothers (Normina et al., 2019). Moreover, (Abd Hamid et al., 2020), mentioned that the Malaysian herbal products industry has gradually grown due to increased community interest in using herbal-based products as medication for the past decade.

1.1 Research Problem Statement

Based on (Oppong, 2020), products with significant consumer satisfaction generate favourable behavioural intentions, which can become an indispensable competitive weapon in the market. Although the importance of consumers' satisfaction with behavioural intentions is found in research (Ali et al., 2013; Ryu et al., 2012), there need to be more studies on the relationship between perceived safety, service quality, convenience, and price consumers' satisfaction, particularly in the herbal medicine market in Malaysia.

Moreover, several researchers have indicated that consumers are more likely to take herbal medicine over the counter than conventional medicine prescribed by a doctor. In Malaysia, as part of the safety evaluations, herbal products are tested for microbiological contamination due to heavy metals before approval. All products must adhere to the limitations outlined in the Drug Registration Guidance Document (DRGD), or the product's registration will be revoked and taken off the shelf if the safety requirements are not met (Pauzi et al., 2022).

Based on (Siregar et al., 2018), herbal medicine increased in 2009-2014 compared to contemporary medicine intake during the same period because consumers perceived that using herbal medicines was safe. On the other hand, according to (Bellanger et al., 2017) consumers of herbal medicine are highly concerned with the safety of these traditional medicines fearing contamination and the side effects of these herbal medicines when consumed. In line with this, a study by (Stub et al., 2016) found that 68% of herbal medicine users encountered adverse effects.

Service quality and customer satisfaction are vital elements while forming consumers' purchase intentions. The results of a study by (Boshoff et al., 2004) show that customer satisfaction with meals, nursing staff, and fees positively impacts service quality. Another study was conducted using data from consumers who had received services from forty different private hospitals in Hyderabad, India, revealing that service quality is a significant factor influencing customer satisfaction (Meesala et al., 2018). There are also study results that indicated that service quality significantly impacts behavioural intention, while the value of assessment was influenced by perceived service quality (Choi et al., 2004). Moreover, like all businesses, herbal medicine companies also perceive that service quality plays a significant role in gaining customer satisfaction, based on research by (Aladwan et al., 2021; Temba, 2013; Peck et al., 2014; Philo, 1997) who elucidated that with the high performance of service, quality will exceed customers' expectations and lead towards satisfaction. Contrarily, a study by (Tachjian et al., 2010) found that the relationship between service quality and consumer satisfaction with herbal medicine is insignificant and, in some cases, inconclusive.

From a study of the factors contributing to customer satisfaction with community pharmacies in Malaysia, (Bahari et al., 2010) found that convenience impacts consumers' satisfaction. Additionally, a study by (Anselmsson, 2006) in Sweden validates that convenience is a significant factor influencing consumers' satisfaction. A more recent study by (Srivastava et al., 2014) revealed that convenience and social interaction affect consumers' experience and satisfaction.

Although convenience is a significant factor that may enhance consumer satisfaction, there is evidence that convenience is insignificant to consumer satisfaction. A study (Kandampully & Suhartanto, 2019) indicates that the value and quality of the products and services play a vital role compared to convenience when consumers make a purchase decision.

Based on the study by (Madiistriyatno et al., 2020; Brata et al., 2017; Choi et al., 2017; Razak et al., 2016; Slack et al., 2020; Zeithaml & V. A., 1988) shows that there is a significant relationship between pricing and customer satisfaction. A study by (Tengku Mohamad et al., 2019) found that price was a significant factor for Malaysian women who use herbal medicine for postnatal care. Conversely, research by (Rezai et al., 2017) unveiled that the price variable is insignificant when consumers purchase herbal medicine.

Consequently, it is crucial to research the influence of perceived safety, service quality, convenience, and price on customers' satisfaction with herbal medicine because there are gaps in the previous findings. Besides, research has yet to be conducted in the Klang Valley. Hence, there is a need to study the significant impact of these four factors on consumers' satisfaction with herbal medicine in Klang Valley, Malaysia

1.2 Research Questions

RQ1: Is there a statistically significant relationship between perceived safety and consumers' satisfaction with herbal medicine?

RQ2: Is there a statistically significant relationship between service quality and consumers' satisfaction with herbal medicine?

RQ3: Is there a statistically significant relationship between convenience and consumers' satisfaction with herbal medicine?

RQ4: Is there a statistically significant relationship between pricing and consumers' satisfaction with herbal medicine?

1.3 Research Objectives

RO1: To examine if there is a statistically significant relationship between perceived safety and consumers' satisfaction with herbal medicine.

RO2: To study whether there is a statistically significant relationship between service quality and consumers' satisfaction with herbal medicine.

RO3: To examine if there is a statistically significant relationship between convenience and consumers' satisfaction with herbal medicine.

RO4: To scrutinize if there is a statistically significant relationship between pricing and consumers' satisfaction with herbal medicine.

2. Theoretical Underpinning, Literature Review and Hypothesis Development

The following sub-sections focus on the theoretical underpinning, literature and hypotheses development.

2.1.1 Theoretical Underpinning – Value Percept Disparity Theory

Westbrook & Reilly (1983) proposed the Value Percept Disparity theory. The theory postulates that customer satisfaction is inherent in an individual's emotional state,

originating from evaluating and assessing the service obtained after utilizing it (Sinambela et al., 2019). The individual's degree of satisfaction or dissatisfaction is a mental response from one of the cognitive domains that influence human character. Cognitive, affective, and psychomotor domains work interchangeably and influence one another.

However, the cognitive domain, which deals with the human brain and reasoning, greatly influences beliefs, values, and actions and compares them to the needs and wants of a human being (Tarip, 2020). This theory requires three factors: one or more product alternatives, several standards held by the consumer, and the conscious or subconscious degree that allows one to judge the relationship between the perceptions and individuals' values (Ing et al., 2019).

Therefore, this theory is significant in directing this study to understand the extent of perception and one's emotional value towards herbal medicines. For instance, the perceived safety of herbal medicine will increase when there is less dissatisfaction, and the opposite applies. Thus, this theory will form the basis of the study, focusing on the first three independent variables: perceived safety, service quality, and convenience of herbal medicines.

2.1.2 Theoretical Underpinning – Equity Theory

According to (Swan & Oliver, 1989), consumer satisfaction is the extent to which customers perceive the ratio of input to output as fair. There are models derived from equity theory (Adams, 1963). Therefore, entities, parties, and individuals involved in the exchange will feel satisfied if the transactions result in fair treatment (Ole Kinisa, 2019). The equity models are grounded on the input-output ratio notion, which significantly determines the extent of customer satisfaction with a given product or service. The extent of equitable treatment is subjective, as it depends on the individual's 'conceptualization' (Kung & Scholer, 2020).

The theory further states that fair or non-fair treatment is influenced by many factors that include but are not limited to the price of the item, service, or commodity, the utility attached to the commodity or product, the effort expended during the transaction, and the time spent to acquire satisfaction. Most customers will be satisfied with products or services if they spend less or more reasonable time acquiring them. In addition, customers may spend less time acquiring products and get less satisfaction based on the value they get (Camilleri, 2018). Thus, the theory indicates that a comparative baseline should be divergent based on satisfactory divergent factors for customers to confirm the extent of satisfaction or dissatisfaction.

Therefore, this theory is deemed informative and significant to this study, given that price is one of the study's variables. The price is central to the purchase intentions of any product. For instance, given that the price of herbal medicine is too high, customers may decide to purchase it regardless of the price. However, the primary contention in

this study is the ratio. Therefore, before purchasing herbal medicines, customers will have a threshold beyond which they expect equity to be achieved.

2.2 Literature Review and Hypotheses Development

The following section provides the relevant literature that led to the development of the hypotheses for this study.

2.2.1 The Relationship Between Perceived Safety and Customer Satisfaction

Perceived safety is a perception by individuals regarding safety and involves judgments regarding the possibility of injury to the product or service user (Raue et al., 2019). According to (Ringle et al., 2011), perceived safety has a massive impact on customer satisfaction among people who use herbal medicine (Ekor, 2014). Therefore, regarding herbal medicine products that are consumable by people, it is crucial to acknowledge their safety for the human body as they are primarily consumable. There is no clear evidence to confirm that herbal medicine is safe (Lynch & Berry, 2007). However, many use herbal medicine as an alternative treatment (Snyder et al., 2009). In research conducted by (Islahudin & Hasan, 2019), herbal medicine is taken from raw plants, a natural ingredient without preservatives, and most people know the originality of herbal medicine.

Herbal medicine is used by most people worldwide (Ardalan & Rafieian, 2013). According to (Siregar et al., 2018), the use of herbal medicine increased in 2009-2014 compared to contemporary medicine intake during the same period because consumers perceived that using herbal medicines is safe, leading to satisfaction. A study conducted by (Salomonsen et al., 2011; Salomonsen et al., 2003) discovered that the extent of herbal medicine being administered at hospitals in Norway and Denmark has amplified at the beginning of the 21st century. According to (Ekor, 2014; Ardalan & Rafieian, 2013), about 80% of the world's population prefers herbal medicines to conventional medicines. Additionally, a study by (Posadzki et al., 2013) concluded that herb medicine does not cause serious adverse effects, but their findings were limited and inconclusive. Most people are more confident in the natural ingredients, herbal medicine's main element. However, some populations need more knowledge regarding their safety and efficiency (Naja et al., 2015). Furthermore, according to (Naja et al., 2015), adults in Lebanon are highly satisfied with the herbal medicines that they use for their treatment. All medicinal herbs have mixtures of more than one ingredient and may result in contamination if the usage regulations are not followed (Naja et al., 2015). In addition, herbal medicine has good and bad outcomes based on how consumers consume the product. Therefore, the demand for a wide variety of plant species is growing in response to the needs of consumers as they become more aware of the herbal medicine safety guidelines that provide many benefits to the human body instead of negative results (Akinyemi et al., 2018).

On the other hand, several adverse effects of herbal medicine cause dissatisfaction among consumers. Consumers make decisions about purchasing a product by looking into certain factors where perceived safety is included in the purchase decision. According to (Cai et al., 2019), when consumers decide to purchase a product or service, the risks come along with the evaluations and the vital decision based on the product's safety to be used and applied to their needs. Furthermore, according to (Cai et al., 2015), there is a warrant for safety in using herbal medicine. It was highlighted in understanding objectives, interpretation, and publicity to reassure herbal medicine's current and future users of its safety. All medicinal herbs have mixtures of more than one ingredient and may result in contamination if the usage regulations are not followed. Additionally, according to (Bellanger et al., 2017), consumers of herbal medicine are extremely concerned with the safety of these traditional medicines, fearing contamination and the side effects of these medicines when consumed. In line with this, a study by (Stub et al., 2016) found that 68% of herbal medicine users encountered adverse effects. Moreover, research by (Dandan Zhao et al., 2012) discovered that Fuzi (aconite, *Radix Aconiti preparator*), a widely used Chinese herb, causes organ failure. Due to these safety risks, consumers are reluctant to use herbal medicine, eventually leading to dissatisfaction and fear of herbal medicine. A recent study by (Junainah Abd Hamid & Sairah, 2020) found an insignificant relationship between perceived safety and consumers' satisfaction with herbal medicine.

Thus, relating to the perceived safety and consumer satisfaction with herbal medicine, when clear indications of the safety measures of the herbal medicines are present, organizations can create potential and loyal customers and increase the number of repeat buyers of herbal medicines. At the same time, if there is unclear and pretentious safety of a product or service, herbal medicine can damage the image of an organization in no time through the consumers' word of mouth. Based on the literature above, gaps are identified regarding the relationship between perceived safety and consumers' satisfaction with herbal medicine. Therefore, the following hypothesis was developed to bridge the gaps in the literature:

H1: There is a statistically significant relationship between perceived safety and consumer satisfaction with Herbal Medicine.

2.2.2 The Relationship Between Service Quality and Customer Satisfaction

Quality is a part of the quality management topic and is an essential business product and service that includes physical products, services, and experiences (Naini et al., 2022). According to (Aryani et al., 2021), quality is an important term for businesses to gain consumers' loyalty and produce positive words about their business. In order to gain a good satisfaction level with consumers, businesses must deliver the best quality of products and services they sell by having the proper resources, tools, and information to create the products and services for sale (Hill & Brierley, 2017). Especially for consumers

in herbal medicine, being transparent with them is essential, as they need to know the product ingredients and quality, as well as possible cures and prevention of the illness. Not only being transparent but also being reachable by the consumers is also essential so that consumers can approach the business with any inquiries regarding the products and services (Rigby et al., 2003). It increases customer satisfaction and business sales, allowing them to maintain their operation and increase the acquisition of new consumers into their market (Tepeci, 1999). By offering good service to consumers, herbal medicine businesses gain their customers' trust and positive perception in society. Specific testing was done to reassure the consumers that the herbal medicine was good quality and safe.

Additionally, there were detections of concentration towards the product and its safety, potency, and efficacy to be standardized to have the needed quality with ethical norms (Balekundri & Mannur, 2020). According to (Srivastava & Misra, 2018), the production of herbs is standardized to meet every industrial demand and consumers' satisfaction. They promote their products through export while maintaining that the product quality meets all consumers' expectations. Therefore, consumers will be interested in using the organization's herbal medicines more frequently and become potentially high repeat purchasers. Thus, quality needs to be improved over time since changes through innovations occur almost every day, requiring every organization to follow up on market changes without falling back from the current trend (Naini et al., 2022). According to (Zygiaris et al., 2022), a positive relationship exists between service quality and customer satisfaction. They mentioned that the better the quality of products, such as herbal medicine, the higher the satisfaction of consumers.

Moreover, service quality plays an essential role in gaining consumers' satisfaction, which shows the customers how much the organization cares for them. For example, herbal medicine producers must improve service quality to retain customers even in a highly competitive environment (Johnson & Karlay, 2018). Nevertheless, like all businesses, herbal medicine companies also perceive that service quality plays a significant role in gaining customer satisfaction, based on research by (Aladwan et al., 2021; Temba, 2013; Peck et al., 2014; Philo, 1997) who elucidated that with the high performance of service, quality will exceed customers' expectations and lead towards satisfaction. Herbal medicine producers must measure their service quality frequently to understand the customers' current perceived level of service quality to gain customer satisfaction. A study conducted by (Kim et al., 2017) found that quality of service procedures had a positive effect on treatment effectiveness, which impacted the satisfaction level of patients. Another study discovered that the level of service quality affected customers' satisfaction (Asadpoor & Abolfazli, 2017). Customers may be highly satisfied with the herbal medication industry if it matches their needs and expectations (Rigopoulou et al., 2008). Furthermore, (Jung et al., 2009) cited that service quality factors such as medical staff and payment impacted patients' satisfaction levels and influenced them to repeat their treatments. Moreover, herbal medicine practitioners must communicate well with their patients to increase their satisfaction with service quality.

According to (Lee & Kim, 2017), constant communication, adequate consultation time, excellent medical skills, and nurses' quick responses increase medical service quality and patient satisfaction.

Although service quality is crucial to satisfying consumers, there is evidence that consumers who use herbal medicine are not satisfied with the quality of service provided to them. A study by (Tachjian et al., 2010) found that the relationship between service quality and consumer satisfaction with herbal medicine is insignificant and, in some cases, inconclusive. Additionally, many herbal medicine sellers offer unpackaged and unapproved herbs in their medicine shops and open street markets, which are contaminated biologically and chemically, compromising the quality of the product and service to consumers, leading to diminished levels of satisfaction (van Wyk & Prinsloo, 2020). Another study by (Joos et al., 2011) discovered that most herbal medicine practitioners are non-medical practitioners within the German healthcare system. Therefore, this type of herbal medicine practitioner may also compromise the service quality, impacting the satisfaction of herbal medicine users. Based on the literature above, gaps are identified regarding the relationship between service quality and consumers' satisfaction with herbal medicine. Therefore, the following hypothesis was developed to bridge the gaps in the literature:

H2: There is a statistically significant relationship between service quality and consumer satisfaction with Herbal Medicine.

2.2.3 The Relationship Between Convenience and Customer Satisfaction

Convenience means making things more accessible for people to do or use or making a situation favourable for everyone (Hinton, 1984). Having convenience in daily life makes each person feel at ease and able to execute more activities as it feels easiness towards the action. According to (Raymond & Tanner, 1994), consumers will be willing to repeat their purchases if they provide convenience to consumers through the products or services. Consumers tend to put little thought into buying products or services from the organization. They are willing to commit loyalty to the organization since they know the organization is providing them convenience in making purchases. Convenience towards a product also regards the price for a sale. When consumers notice the product or service is cheaper than the competitors', they will go for the cheaper product as they know the organizations offer the same products and services but at different prices. When the efforts by consumers are less likely involved, they do not feel the need to plan whether they should buy it or not and make the purchase a routine for them which is a massive benefit for the organization to gain more profits (Stefan et al., 2013). Therefore, the organization should make the products or services sold in an appropriate distribution location with affordable prices and durable quality so that the consumers feel appreciated for the conveniences offered.

Relating herbal medicines to conveniences, the availability in pharmacies is typical for the location to have a variety of medications, whether traditional or modern medicine, as they are trustworthy and knowledgeable regarding herbs. Knowing the product or service is convenient for consumers, especially herbal medicine. The product distribution area personnel need to know the product's use, number of doses, and effects of using the product (Al-Arifi, 2013). In addition, herbs can also be found in spice stores and are commonly used in cooking foods labeled as spices that can maintain health by preventing diseases and lowering the risk of cancer (Jiang, 2019). In the current era of globalization, technology is becoming worldwide and convenient as it can now reach anyone worldwide, and much information to be gained conveniently through the internet (Castells et al., 2009). Hence, when convenient services are implemented, consumers can easily reach products such as herbal medicines to fulfil their needs. Consumers feel that convenience is a significant benefit that organizations must provide and perceive that the organizations are listening to their needs. This is in line with the findings of (Chowdhury, 2023). Additionally, the demand for herbal medicine increases if convenience to the consumer is incorporated by the organization, according to (Ekor, 2014).

Moreover, according to (Mehmood & Najmi, 2017), it is crucial to provide convenience to customers so they keep repeating purchases. Other than delivery, the purchase transaction is also part of the convenience the customers will experience. Based on (Mpinganjira, 2015), making transactions easy for customers is equivalent to gaining customer satisfaction. Contrarily, (Mehmood et al., 2017) have discovered the opposite. Their study revealed that convenience in delivery does not influence customer satisfaction.

Although convenience is a significant factor that may enhance consumer satisfaction, there is evidence that convenience is insignificant to consumer satisfaction. A study by (Kandampully & Suhartanto, 2019) indicates that the value and quality of the products and services play a vital role compared to convenience when consumers make a purchase decision. Furthermore, (Wirtz & Lovelock, 2019) mention that organizations that concentrate only on convenience may not be able to satisfy consumers, converge on innovation, and achieve a competitive edge. They further explained that the lone emphasis on convenience causes myopia, whereby the organizations will need to pay more attention to the significance of discovering contemporary ways to exceed consumers' expectations and only try to fulfill consumers' immediate expectations. As a result, the organizations may not sustain their businesses. Based on the literature above, gaps are identified regarding the relationship between convenience and consumers' satisfaction with herbal medicine. Therefore, the following hypothesis was developed to bridge the gaps in the literature:

H3: There is a statistically significant relationship between convenience and consumer satisfaction with Herbal Medicine.

2.2.4 The Relationship Between Pricing and Customer Satisfaction

According to (Wantara & Tambrin, 2019), price is money or the value of a product or service that can be exchanged to attain ownership or charged as a cost. Pricing can significantly impact consumers' mindsets by influencing their decision to purchase a product based on their logic and product performance. It plays a prominent role in influencing customer satisfaction (Haq, 2018). In turn, the price level of a product or service indicates a consumer's desire to buy the product or service (Kaura et al., 2015; Mulhern & Leone, 1991; Zhu et al., 2019). Research by (Tengku Mohamad et al., 2019) found that price was a significant factor for married Malay women in Malaysia with a monthly income of less than RM 3000 or USD 729 who frequently used herbal medicine for postnatal care. The reason for this is that herbal medicine is cheaper compared to conventional medicine. Besides that, with the growing culture of herbal agents and distributors in Malaysia, purchasing these products is easier and cheaper.

Based on (Almasi et al., 2015) research, the most common reasons for using herbal medicine compared to conventional medicine are that it is inexpensive, more closely corresponds with the consumers' beliefs, avoids concerns about the adverse effects of chemical (synthetic) medicines, and satisfies a need for more personalized health care. Hence, price is a significant factor in a consumer's decision between herbal and conventional medicine. However, in research by (Rezai et al., 2017), the price variable does not significantly affect the consumer when they purchase herbal medicine. However, product quality significantly affects consumers' satisfaction when purchasing herbal medicine compared to price. Hence, maintaining and improving product quality is needed before re-evaluating product prices. It plays a role when consumers purchase herbal medicine.

Moreover, (Tengku Mohamad et al., 2019) elucidated that it is not only the low cost of the product but also accepting the benefits of the medicine, primarily when used in different cultures, that makes the consumers confident in purchasing herbal medicine. According to (Hasim et al., 2020), customers' purchasing power is increasing, and demands are overwhelming as most companies understand their customers' wants and needs. The research shows that pricing competition among companies is fierce because they must meet the demands of their suppliers and customers while also maintaining their profitability. The price is allocated based on different geographical markets with high demand from customers willing to pay more than customers at another location (Kenton, 2022). According to (Ginsberg & Bloom, 2004), changes in a product's pricing can change the company's audience, as customers may have different expectations towards the prices promoted by the company and attract new customers based on the market price that seems reasonable to them.

Therefore, customer satisfaction will be affected by the pricing decided by a company. In turn, it will boost the usage of the company's products or services (Cao et al., 2003). Customers will be satisfied with the price that they bought a product cheaper than the other company with identical products, which sets the value of the product's

quality even in a green product. Companies sell most green products at different prices (Wilson, 2022). Therefore, pricing is crucial for companies to gain customer satisfaction and control the market (Wantara & Tambrin, 2019). Based on the literature above, gaps are identified regarding the relationship between pricing and consumers' satisfaction with herbal medicine. Hence, the following hypothesis was developed to bridge the gaps in the literature:

H4: There is a statistically significant relationship between pricing and consumer satisfaction with Herbal Medicine.

2.3 Proposed Conceptual Framework

The conceptual framework in Figure 1 depicts the relationship between the independent variables (Perceived Safety, Service Quality, Convenience and Pricing) and the dependent variable (Consumers' Satisfaction). This conceptual framework was formulated based on the Value Percept Theory, Equity Theory and the literature review.

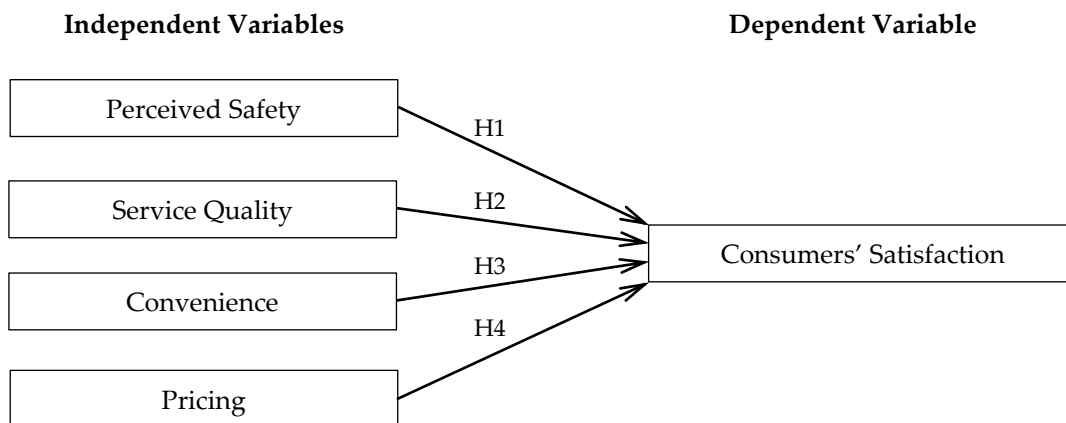


Figure 1: Proposed Conceptual Framework

3. Methodology

The following section provides the population, sampling, measurements, reliability analysis, and descriptive statistics.

3.1 Population, Sampling & Measurements

For this research, convenience, and nonprobability sampling were used in this survey. This type of sampling is where the researchers choose anyone they come across. Alternatively, researchers will send this study to everybody who is easily accessible and available in the designated sample area. The respondent's output data were examined using SPSS version 28.

This study will focus on consumers in Petaling District in Klang Valley, Malaysia. According to (Mariadas et al., 2016), the population of this area is 2,298,130. The target group this study will focus on is 15 years old and older, comprising about 78.5%, or 1,803,103, of the Petaling district. According to (Krejcie and Morgan's, 1970) tabularization, the sample size representative of the population at Klang Valley is 384. The questionnaires were distributed via email and social media apps such as WhatsApp, Facebook, Instagram, and Telegram to 443 consumers in the Klang Valley. 384 responses were received. The responses from the 443 samples, with an 87% return rate, were adequate. A response of 60% was adequate, according to (Babbie, 2016; Dillman et al., 2014). Therefore, the 384 responses provided the data for analysis, discussion, and concluding this study.

3.2 Reliability Analysis

Table 1: Reliability Analysis (N = 384)

| Variables | Cronbach's Alpha | No. of Items |
|-----------------------|------------------|--------------|
| Satisfaction | 0.896 | 5 |
| Perceived Safety (PS) | 0.679 | 5 |
| Service Quality (SQ) | 0.812 | 5 |
| Convenience (C) | 0.899 | 5 |
| Pricing (P) | 0.913 | 5 |

According to Table 1, Cronbach's alpha value for Consumers' Satisfaction is 0.896 with 5 items, whereas the second variable, Perceived Safety has a Cronbach's alpha value of 0.679 with 5 items. The third variable is the Service Quality with a Cronbach's alpha value of 0.812 with 5 items. The Cronbach's alpha value for Convenience is 0.899 with 5 items. Finally, Cronbach's alpha value of Pricing was 0.913 with 5 items. All Cronbach's alpha values were between 0.6 – 1.0, indicating that the questionnaire is reliable.

3.3 Mean and Standard Deviation Analysis

Table 2 Descriptive Statistics, displays the mean, standard deviation (SD), skewness and kurtosis values of this research.

Table 2: Descriptive Statistics (N = 384)

| Factors | Mean | SD | Skew | Kurtosis | Min | Max |
|-----------------------|-------|-------|--------|----------|------|------|
| Perceived Safety (PS) | 3.571 | 0.749 | -0.126 | -0.139 | 1.00 | 5.00 |
| Service Quality (SQ) | 3.576 | 0.806 | -0.067 | -0.452 | 1.00 | 5.00 |
| Convenience (C) | 3.618 | 0.919 | -0.511 | -0.100 | 1.00 | 5.00 |
| Pricing (P) | 3.626 | 0.815 | -0.208 | -0.304 | 1.00 | 5.00 |
| Satisfaction (S) | 3.748 | 0.657 | 0.167 | -0.383 | 1.00 | 5.00 |

From Table 2, the factor Satisfaction (S) shows the highest mean value of 3.748 ± 0.657 . The lowest mean value is Perceived Safety (PS), 3.571 ± 0.749 . Additionally, the normality

test in Table 2 indicates that the skewness and kurtosis values have a threshold of ± 2 therefore the data are distributed normal, as cited by (Chinna & Yuen, 2015; Gravetter & Wallnau, 2014).

4.1 Findings & Interpretation

The following section provides the findings of this study, including the respondents' demographic profiles, descriptive analysis, correlation, and regression analysis.

4.2 Demographic Profile

The profile of the respondents studied is displayed in Table 3.

Table 3: Demographic Profile of Respondents (N = 384)

| Demographics | Frequency | Percentage (%) |
|-----------------------|-----------|----------------|
| Gender | | |
| Male | 119 | 31.0% |
| Female | 265 | 69.0% |
| Ethnicity | | |
| Malay | 75 | 19.5% |
| Chinese | 142 | 37.0% |
| Indian | 127 | 33.1% |
| Others | 40 | 10.4% |
| Age | | |
| Below 21 | 12 | 3.1% |
| 21 - 30 | 157 | 40.9% |
| 31 - 40 | 112 | 29.2% |
| 41 - 50 | 59 | 15.4% |
| Above 51 | 44 | 11.5% |
| Income | | |
| Below RM2000 | 92 | 24.0% |
| RM2001 - RM4000 | 140 | 36.5% |
| RM4001 - RM6000 | 54 | 14.1% |
| RM6001 - RM8000 | 50 | 13.0% |
| RM8001 - RM10,000 | 28 | 7.3% |
| Above RM10,001 | 20 | 5.2% |
| Marital Status | | |
| Single | 227 | 59.1% |
| Married | 151 | 39.3% |
| Others | 6 | 1.6% |

According to the demographic analysis in Table 2 above, the number of responses collected is N=384. The demographics survey of respondents shows that the majority are female (69.0%). In terms of ethnicity, the majority of the respondents are Chinese, which is 142 or (37.0%). Regarding the age range, the majority are in between 21 - 30 years old, which is 157 respondents or (40.9%). In terms of the income range, the majority of the

respondents earn in between RM2001 - RM3000 per month, which is (36.5%). Finally, a majority of 227 or (59.1%) of respondents are single.

4.3 Correlation Analysis

The Pearson's Correlation among variables in Table 4 shows the statistical analysis of this study.

Table 4: Correlation Matric (N = 384)

| Variable | PS | SQ | C | P | S |
|---|-------|-------|-------|-------|---|
| Perceived Safety (PS) | 1 | | | | |
| Service Quality (SQ) | 0.577 | 1 | | | |
| Convenience (C) | 0.689 | 0.453 | 1 | | |
| Pricing (P) | 0.399 | 0.830 | 0.409 | 1 | |
| Satisfaction (S) | 0.592 | 0.552 | 0.688 | 0.655 | 1 |
| Predictors: (Constant), Perceived Safety, Service Quality, Convenience, Pricing. Dependent Variable: Consumers' Satisfaction | | | | | |

Based on Pearson's correlation matrix shown in Table 4, it was observed that the data significantly supported the measurement model. It is evident that Perceived Safety (PS), Service Quality (SQ), shows a positive and moderate correlation with Satisfaction ($r = 0.592, p < 0.001$), ($r = 0.552, p < 0.001$) respectively. Convenience (C), and Pricing (P) shows a positive and high correlation with Satisfaction (S), ($r=0.688, p<0.001$) and ($r = 0.655, p < 0.001$) respectively.

Additionally, the association between the independent variables SQ and PS, C and SQ, P and C are all positive and moderately correlated ($r = 0.577, p < 0.001$), ($r = 0.453, p < 0.001$), ($r = 0.409, p < 0.001$). The association between C and PS shows a positive high degree of correlation ($r = 0.689, p < 0.001$). A positive low correlation can be seen in the association between P and PS ($r = 0.399, p < 0.001$) and a positive very high correlation is the association between P and SQ ($r = 0.830, p < 0.001$).

4.4 Regression Analysis

Table 5: Model Summary

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------|----------|-------------------|----------------------------|
| 1 | 0.818 | 0.669 | 0.665 | 0.380 |

From Table 4 Model Summary, $R = 0.818$ indicates the multiple correlation coefficient value, which exhibits a high degree of predictive accuracy. The $R^2 = 0.669$. This implies that 66.9% of the variation in the dependent variable (Consumers' Satisfaction) can be explained by the independent variables (Perceived Safety, Service Quality, Convenience, and Pricing).

Table 6: ANOVA

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|------------|----------------|-----|-------------|---------|-------|
| 1 | Regression | 110.159 | 4 | 27.540 | 190.878 | 0.000 |
| | Residual | 378 | 378 | 0.144 | | |
| | Total | 164.697 | 382 | | | |
| a. Dependent Variable: Consumers' Satisfaction (S) | | | | | | |
| b. Predictors: (Constant), Perceived Safety, Service Quality, Convenience and Pricing | | | | | | |

Table 5 ANOVA shows that the independent factors statistically and substantially predict the dependent variable ($F=190.878$, $p < 0.001$). Therefore, the regression model fit is good. Thus, the independent variables (perceived safety, service quality, convenience and pricing) can be used to predict the dependent variable (consumers' satisfaction).

Table 7: Coefficients

| Model | | Unstandardized Coefficients | | Standardized Coefficients Beta | t | Sig. |
|---|-----------------------|-----------------------------|------------|--------------------------------|--------|-------|
| | | B | Std. Error | | | |
| Variables | (Constant)** | 0.976 | 0.109 | | 8.932 | 0.000 |
| | Perceived Safety (PS) | 0.202 | 0.041 | 0.231 | 4.980 | 0.000 |
| | Service Quality (SQ) | -0.243 | 0.050 | -0.298 | -4.908 | 0.000 |
| | Convenience (C) | 0.285 | 0.030 | 0.398 | 9.488 | 0.000 |
| | Pricing (P) | 0.521 | 0.044 | 0.647 | 11.749 | 0.000 |
| **Dependent Variable: Consumers' Satisfaction (S) | | | | | | |

Table 6 Coefficients, show that Perceived Safety (PS) ($B = 0.202$; $p < 0.001$), Service Quality (SQ) ($B = -0.243$; $p < 0.001$), Convenience (C) ($B = 0.285$; $p < 0.001$) and Pricing (P) ($B = 0.521$; $p < 0.001$) are statistically significant. Thus, this implies a significant relationship between the predictor variables (Perceived Safety, Service Quality, Convenience, and Pricing) and the dependent variable (Consumers' Satisfaction)

Based on Table 7 Coefficients, the linear regression equation is as follows:

$$C = 0.976 + 0.202(PS) - 0.243(SQ) + 0.285(C) + 0.521(P)$$

Where;

C = Consumers' Satisfaction with Herbal Medicine;

PS = Perceived Safety;

SQ = Service Quality;

C = Convenience;

P = Pricing.

The result indicates that with a one-unit increase in perceived safety (PS), there is an increase in consumers' satisfaction with herbal medicine (C) by 0.202 units. Similarly, one unit increase in convenience and pricing increases the consumer's satisfaction with herbal medicine by 0.285 and 0.521 units respectively. Meanwhile, one unit increase in service quality decreases the consumer's satisfaction with herbal medicine by 0.243 units.

Additionally, the outcome of the multiple regression analysis rates the influence of independent factors on the dependent variable. The stronger the standardization coefficient, the more significant the influence of the predictor variables on the consumer's satisfaction.

According to Table 7 the standardized Coefficients (Beta) reveals that for Perceived Safety (PS): The standardized coefficient beta of 0.231 indicates a positive relationship between perceived safety and consumers' satisfaction, after controlling for the effects of the other variables. Specifically, a one-standard-deviation increase in perceived safety is associated with a 0.231 standard deviation increase in consumers' satisfaction.

Secondly, Service Quality (SQ): The standardized coefficient beta of -0.298 indicates a negative relationship between service quality and consumers' satisfaction, after controlling for the effects of the other variables. Specifically, a one-standard-deviation increase in service quality is associated with a 0.298 standard deviation decrease in consumers' satisfaction.

Thirdly, Convenience (C): The standardized coefficient beta of 0.398 indicates a positive relationship between convenience and consumers' satisfaction, after controlling for the effects of the other variables. Specifically, a one-standard-deviation increase in convenience is associated with a 0.398 standard deviation increase in consumers' satisfaction.

Lastly, Pricing (P): The standardized coefficient beta of 0.647 indicates a strong positive relationship between pricing and consumers' satisfaction, after controlling for the effects of the other variables. Specifically, a one-standard-deviation increase in pricing is associated with a 0.647 standard deviation increase in consumers' satisfaction.

4.5 Summary of Hypothesis Test

Table 8: Summary of Hypothesis Results (N = 384)

| Hypothesis | P-value | Result |
|--|---------|-------------------|
| H1: There is a statistically significant relationship between perceived safety and consumers' satisfaction with herbal medicine. | < 0.001 | Supported by data |
| H2: There is a statistically significant relationship between service quality and consumers' satisfaction with herbal medicine. | < 0.001 | Supported by data |
| H3: There is a statistically significant relationship between convenience and consumers' satisfaction with herbal medicine. | < 0.001 | Supported by data |
| H4: There is a statistically significant relationship between pricing and consumers' satisfaction with herbal medicine. | < 0.001 | Supported by data |

From Table 8 Summary of Hypothesis Results, the first hypothesis (H1) tests if there is a statistically significant relationship between perceived safety and consumers' satisfaction with herbal medicine. The p-value of perceived safety is less than 0.001. Consequently, indicating a statistically significant relationship between perceived safety and consumers' satisfaction with herbal medicine.

The second hypothesis (H2) tests if there is a statistically significant relationship between service quality and consumers' satisfaction with herbal medicine. The p-value of service quality is less than 0.001. Therefore, it denotes a statistically significant relationship between service quality and consumers' satisfaction with herbal medicine.

The third hypothesis (H3) is to investigate if there is a statistically significant relationship between convenience and consumers' satisfaction with herbal medicine. The p-value of convenience is less than 0.001. Therefore, it denotes a statistically significant relationship between convenience and consumers' satisfaction with herbal medicine.

The fourth hypothesis (H4) tests if there is a statistically significant relationship between pricing and consumers' satisfaction with herbal medicine. The p-value of pricing is less than 0.001. Thus, demonstrating a statistically significant relationship between pricing and consumers' satisfaction with herbal medicine.

5. Discussion

In this section, the results of the study are discussed. The results are generated using the IBM Statistical Package for Social Science, version 26. The multiple regression analysis was applied to determine the relationship between the independent variables (perceived safety, service quality, convenience, and pricing) and the dependent variable (consumers' satisfaction with herbal medicine). Moreover, Pearson's correlation coefficient was observed to determine the size and direction of the association and whether it was statistically significant.

Firstly, this study examined if there is a statistically significant relationship between perceived safety and consumers' satisfaction with herbal medicine in Klang Valley, Malaysia, and tested hypothesis H1: There is a statistically significant relationship between perceived safety and consumers' satisfaction with herbal medicine.

The result showed a statistically significant relationship between perceived safety and consumers' satisfaction with herbal medicine ($\beta = 0.202$, p-value less than 0.001). This shows that the results are consistent with the literature, suggesting that perceived safety is a statistically significant determinant of consumers' satisfaction with herbal medicine. The finding of this study is parallel to those (Raue et al., 2019; Ringle et al., 2014; Lynch & Berry, 2007; Snyder et al., 2009; Islahudin & Hasan, 2019; Zhang et al., 2019; Ardalan & Rafieian-Kopaei, 2013; Akinyemi et al., 2018) who confirm that perceived safety significantly affects consumers' satisfaction with herbal medicine when they seek or use herbal medicine.

This study also validates the findings of (Ringle et al., 2014; Haliru & Mokhtar, 2015), who found that perceived safety impacts consumers' satisfaction. Thus, hypothesis H1 is supported by data, and the findings of this study were able to address, conclude, and narrow the literature gap and validate a positive and statistically significant relationship between perceived safety and consumers' satisfaction with herbal medicine.

Secondly, this study examined if there is a statistically significant relationship between service quality and consumers' satisfaction with herbal medicine in Klang Valley, Malaysia, and tested the hypothesis H2: There is a statistically significant relationship between service quality and consumers' satisfaction with herbal medicine.

The results showed a statistically significant relationship ($\beta = -0.243$ $p < 0.001$). This shows that the results are consistent with the literature, suggesting that service quality significantly determines consumers' satisfaction with herbal medicine.

The findings of this study are parallel to the discoveries of (Naini et al., 2022; Chen & Myagmarsuren, 2011; Seshadri & Kumar, 2022; Bernazzani, 2022; Hill & Brierley, 2017; Franklin & Gkiouleka, 2021; Balekundri & Mannur, 2020; Srivastava & Misra, 2018; Naini et al., 2022; Zygiaris et al., 2022), who confirms that good service quality will gain consumers' satisfaction. It is important because they are the primary key to gaining the consumers' trust and maintaining herbal medicine's attractiveness and loyalty to consumers.

The connection between service quality and consumers' satisfaction with herbal medicine was statistically and positively significant in the sample group examined in this research. Service quality is important in gaining consumers' satisfaction with herbal medicine (Zygiaris et al., 2022; Temba, 2013). Once again, the data is parallel to the literature, showing that high service quality must be measured frequently to gain consumer satisfaction constantly. Thus, hypothesis H2 is supported by data, and the findings of this study were able to address, conclude, and narrow the literature gap and validate a positive and statistically significant relationship between service quality and consumers' satisfaction with herbal medicine.

Thirdly, this study scrutinized if there is a statistically significant relationship between convenience and consumers' satisfaction with herbal medicine in Klang Valley, Malaysia, and tested the hypothesis H3: There is a statistically significant relationship between convenience and consumers' satisfaction with herbal medicine.

The results showed a statistically significant relationship between convenience and consumer satisfaction ($\beta = 0.285$, $p < 0.001$). This shows that the results are parallel to the literature, which suggests that convenience is a significant determinant of consumers' satisfaction with herbal medicine.

This study's findings align with the outcomes of (Raymond & Tanner, 1994; MBA Skool, 2021; Al-Arifi, 2013; Jiang, 2019; Wiseman et al., 2012; Ekor, 2014), who confirms that convenience positively affects consumers' satisfaction with herbal medicine. Providing convenience to consumers through the products or services will be good to have consumers willing to repeat their next purchases. In addition, convenience is important in gaining consumers' satisfaction even in the home delivery service, and making the transaction easier for the consumers is equivalent to gaining consumers' satisfaction (Mehmood & Najmi, 2017). In other words, convenience will increase consumers' satisfaction with delivering herbal medicine products and services. Thus, hypothesis H3 is supported by data, and the findings of this study were able to address,

conclude, and narrow the literature gap and validate a positive and statistically significant relationship between convenience and consumers' satisfaction with herbal medicine.

Finally, this study scrutinized if there is a statistically significant relationship between pricing and consumers' satisfaction with herbal medicine in Klang Valley, Malaysia. It tested hypothesis H4: There is a statistically significant relationship between the pricing and consumers' satisfaction with herbal medicine.

The results showed a statistically significant relationship between pricing and consumers' satisfaction with herbal medicine ($\beta = 0.521$, $p < 0.001$). The results are consistent with the literature, suggesting pricing significantly determines consumers' satisfaction with herbal medicine. Reasonable pricing is perceived as a vital element that leads to good consumer satisfaction with herbal medicine in this study.

The findings of this study are parallel to the discoveries of (Wantar et al., 2019; Haq, 2018; Kaura et al., 2015; Mulhern & Leone, 1991; Zhu et al., 2019; Tengku Mohamad et al., 2019), who confirm that pricing credibility significantly affects consumers' satisfaction with herbal medicine. According to these scholars, pricing is critical since consumers are more likely to accept the better offer in pricing. Therefore, this study validates their previous findings that pricing is essential since consumer satisfaction will be affected by the pricing decided by a company to be marketed. In turn, it leads to a boost in the usage of the company's products or services (Cao et al., 2003).

Additionally, this study validates the finding of (Xu et al., 2006), who stressed that pricing is always more effective in the relationship between consumers' satisfaction with herbal medicine. Thus, hypothesis H4 is supported by data, and the findings of this study were able to reveal, conclude, and narrow the gap in the literature and validate a positive and statistically significant relationship between pricing and consumers' satisfaction with herbal medicine.

6. Conclusion

The first research question: Is there a statistically significant relationship between perceived safety and consumers' satisfaction with herbal medicine? Responses to this first independent variable indicated a moderate positive and statistically significant relationship between perceived safety and consumers' satisfaction with herbal medicine.

A past study by (Ringle et al., 2011) indicates that perceived safety affects consumers since it is important to acknowledge the safety of the human body as they are primarily consumable products. Additionally, in a study by (Zhang et al., 2019), when consumers decide to purchase a product or service, the risks come along with the evaluations and the important decision based on the product's safety to be used and applied to their needs. Moreover, in another study (Ardalan & Rafieian-Kopaei, 2013), 80% of the world's population is now going for herbal medicines instead of conventional

medicines as they have confidence in the natural ingredients, which is undoubtedly herbal medicine's main element.

However, this study negates the findings of (Bellanger et al., 2017; Dandan Zhao et al., 2012; Junainah Abd Hamid & Sairah, 2020), who have found an insignificant relationship between perceived safety and consumers' satisfaction with herbal medicine. Additionally, this study supports previous researchers (Siregar et al., 2018; Akinyemi et al., 2018; Ekor, 2014; Ardalan & Rafieian, 2013) who have indicated that perceive safety is a crucial element to satisfy its users. As many consumers are choosing herbal medicine compared to modern medicine, the safety aspects of herbal medicine have become a crucial factor. Most new consumers of herbal medicine are wary of the problem of contamination and usage regulations. Therefore, companies that produce herbal medicines must ensure that the herbal medicine's safety is not compromised. Herbal medicine producers must highlight all side effects, methods of use, dosage, and the herbs used in the medicine preparation to enhance the satisfaction of consumers so that they will be confident and repeat purchases.

Moreover, according to the Value Percept Disparity Theory (Westbrook & Reilly, 1983), consumers choose products based on their values, encompassing emotions and pragmatism. As such, herbal medicine users will only perceive its values and benefits if they feel that the safety aspect is included in the herbal medicine. Therefore, the Value Percept Theory backs this study by showing that the consumers' perception of safety influences consumers' satisfaction. Hence this theory supports this study, answers the first research question, and further bridges the gap in the literature.

The second research question: Is there a statistically significant relationship between service quality and consumers' satisfaction with herbal medicine? Responses to this second independent variable indicated a moderate positive and statistically significant relationship between service quality and consumers' satisfaction with herbal medicine.

It is evident that this study is in line with previous researchers (Naini et al., 2022; Kim et al., 2017; Lee & Kim, 2017; Asadpoor & Abolfazli, 2017) who have proven that service quality is a significant factor affecting consumers' satisfaction. Moreover, this study repudiates previous research by (Tachjian et al., 2010), who elucidated that the relationship between service quality and consumers' satisfaction with herbal medicine is insignificant.

From this study, it is obvious that consumers expect a high degree of service quality from the herbal medicine purchased. Therefore, herbal medicine producers must ensure that their services exceed consumers' expectations. To accomplish this, herbal medicine producers must provide consumers with accurate and readily available information. Additionally, the manufacturers must constantly communicate and follow up with their consumers on the satisfaction level with the herbal medicines and regularly monitor if any side effects are present. This way, the herbal medicine manufacturer can rapidly resolve problems and create trust and loyal consumers. Through excellent quality

service, herbal medicines producers can enhance consumer satisfaction and develop a competitive advantage.

Based on the Value Percept Disparity Theory (Westbrook & Reilly, 1983), consumers distinguish the value and benefit of services according to their perceived quality. Consumers of herbal medicine will seek quality services from the herbal medicine producers regarding the producers' know-how, communication, feedback, information, and unwavering support. These factors impact the satisfaction level of the consumers and ensure that they constantly engage with herbal medicine manufacturers. Hence, this theory aligns with this study, solves the second research question, and further bridges the gap in the literature.

The third research question: Is there a statistically significant relationship between convenience and consumers' satisfaction with herbal medicine? Response to this independent variable revealed a high positive correlation and a statistically significant relationship between convenience and consumers' satisfaction with herbal medicine.

This study indicates that convenience impacts consumers' satisfaction with herbal medicine and support (Raymond & Tanner, 1994), who mentions that providing convenience through products or services will significantly result in repeat purchases. Additionally, in a study (Mpiganjira, 2015), making products or services more convenient to consumers, such as making the transaction easy for the consumers, are equivalent to gaining consumers' satisfaction due to the conveniences provided by the company and identified as the friendly approach for the consumers. Moreover, this study corroborates the findings of recent studies (Chowdhury, 2023; Ekor, 2014), which elucidates that consumers feel that convenience is a significant factor that organizations must provide to enhance their satisfaction level. Additionally, this study contradicts the previous findings of (Kandampully & Suhartanto, 2019; Wirtz & Lovelock, 2019; Mehmood et al., 2017), who explicates that convenience does not impact consumer satisfaction.

Furthermore, according to the Value Percept Disparity Theory, the discrepancy between anticipations and acuties impacts a customer's satisfaction (Westbrook & Reilly, 1983). Therefore, customer satisfaction with herbal medicine can be elevated by offering conveniences such as web-based ordering and home deliveries. Hence this theory is consistent with this study, resolves the third research question, and further bridges the gap in the literature.

The fourth research question: Is there a statistically significant relationship between pricing and consumers' satisfaction with herbal medicine? Responses to this fourth independent variable indicated a high positive correlation and statistically significant relationship between pricing and consumers' satisfaction with herbal medicine.

A study by (Haq, 2018) indicates that pricing can affect customers' mindsets by influencing their decision to purchase a product based on their logic and product performance. It plays the main role in influencing customer satisfaction. Additionally,

previous studies by (Tengku Mohamad et al., 2019; Zhu et al., 2019; Kaura et al., 2015; Mulhern & Leone, 1991) align with this study, indicating that the price level of a product or service has a significant impact on consumers' desire to make a purchase. On the other hand, this study contradicts (Rezai et al., 2017), who mentions that the price variable does not significantly affect consumers when they purchase herbal medicine.

This study agrees with the Equity Theory (Adams, 1963), which illuminated that consumers associate reasonable pricing of products or services by matching similar products available in the market. This study has enlightened that consumers often compare the pricing of herbal medicines to modern medicines. When consumers discover that herbal medicines are reasonably priced and provide the same remedy for their illness, they will continue to purchase them and become contented. Hence, this theory substantiates this study, resolves the fourth research question, and further bridges the gap in the literature.

The paradox in this study is that although herbal medicine manufacturers, marketers, and the government can enhance consumer satisfaction through various means, such as elevating safety, service quality, convenience, and offering fair prices, the same factors may also create a paradoxical situation where consumers become more cautious about the use of herbal medicine due to its perceived risks, resulting in a probable diminution in demand and satisfaction. Despite this paradox, the output of this study can still be used by herbal medicine manufacturers and marketers to tailor their strategies to exploit opportunities in the herbal medicine market.

Conflict of Interest Statement

The authors of this research would like to assert that there are no conflicts of interest linked with this research, and it was not supported by anyone that could have influenced its results. As the researchers of this study, the authors authenticate its originality, emphasize that this research has not been published previously, and validate that it is not presently intended for publication elsewhere.

About the Authors

There are six authors involved in this research. Below is a brief introduction of each author.

Tan Keing Boon received his transcript of aeronautical engineering in 2010 from the INTI International University under a twinning program with Embry-Riddle Aeronautical University, US. He started his career at VIVO Malaysia and worked till 2022 as a Sales Supervisor. Currently, he works as a Key Account Manager at AMT PC Distributor Sdn Bhd.

Nur Azizah binti Buchari obtained her Bachelor of Business (Entrepreneurship) degree in 2022 from International Islamic College in collaboration with Federation University Australia. She interned with BASF as a sales and marketing support specialist in the care chemicals department. She moved into a career at a retail company promoting products

through social media and reaching international consumers. Currently, she is selling food products online while working as a preschool, academic, and tahfiz teacher, plus doing online tutoring to analyze the current education system for future study.

Heather Marie Boudville holds a Diploma in Business Studies from HELP University and is a certified human resources officer from MIHRM. She has over 15 years of experience in the recruitment industry and 2 years of experience in the L&D industry. She started her career at Jobstreet in the sales division, going from a junior account Manager to leading a team of senior and junior account managers. Her subsequent career path was to venture into a headhunting agency, recruiting candidates for all levels and industries. She went back to the recruitment industry to lead a team before getting the opportunity to set up the sales development division. Currently, she is in the L&D industry, working with the sales development team. She engages with clients from different industries, understands their L&D needs, and connects them with the relevant teams.

Renuka Balasubramaniam graduated from UNITAR International University with a Bachelor's in Accountancy. She began her first career at Brunfield International Group as an account assistant in the accounts payable department. She is pursuing her career in Terra Communication as an Administrative Executive, supporting and organizing events like Dell Technologies.

Hamshini Esuthasu has a Bachelor of Communication in Journalism. She is currently pursuing her career with Rbc iNvestor Treasury Services as a senior executive in entitlements.

Kumaran Kanapathipillai holds a Ph.D. in Management/Business from the Management and Science University (MSU, Malaysia). With 22 years of experience as an academic and researcher, he has specialized in Management, Marketing, Supply Chain Management, and Logistics Management. He supervises and assesses Master's and Ph.D. candidates. He is an external examiner for some universities in Europe and Asia. He is also a peer reviewer of several journals. He conducts entrepreneurship, creative problem-solving, and project management training across various industries. His primary areas of interest and research focus on contemporary entrepreneurship, management, and marketing.

References

- Abd Hamid, J., & Sairah, A. K. (2020). Relationship of Herbal Drugs with Customer Satisfaction in Malaysia. *Systematic Reviews in Pharmacy*, 11(1), 1192-119
- Adams, J. S. (1963). Towards an understanding of inequity. *The journal of abnormal and social psychology*, 67(5), 422.
- Ahmad, F., Zaidi, M. A. S., Sulaiman, N., & Majid, F. A. A. (2015). Issues and challenges in the development of the herbal industry in Malaysia. *Prosiding Perkem*, 10(1), 227-238.

- Akinyemi, O., Oyewole, S. O., & Jimoh, K. A. (2018). Medicinal plants and sustainable human health: a review. *Horticulture International Journal*, 2(4), 194-195.
- Al-Arifi, M. N. (2013). Availability and needs of herbal medicinal information resources at community pharmacy, Riyadh region, Saudi Arabia. *Saudi Pharmaceutical Journal*, 21(4), 351-360.
- Aladwan, M. A., Salleh, H. S., Anuar, M. M., ALhwadi, H., & Almomani, I. (2021). The relationship among service quality, patient satisfaction and patient loyalty: case study in Jordan Mafraq hospital. *Linguistics and Culture Review*, 5(S3), 27-40. <https://doi.org/10.37028/lingcure.v5nS3.1368>
- Ali, F., Omar, R. & Amin, M. (2013). An Examination of the Relationships between Physical Environment, Perceived Value, Image and Behavioural Intentions: A SEM Approach towards Malaysian Resort Hotels. *Journal of Hotel and Tourism Management*, 27(2), 9-26.
- Ali, M., & Raza, S. A. (2017). Service quality perception and customer satisfaction in Islamic banks of Pakistan: the modified SERVQUAL model. *Total Quality Management & Business Excellence*, 28(5-6), 559-577.
- Almasi, V., AliMahmoudi, G., Lorzadeh, N., & Khansari, A. (2015). The reasons for using and not using alternative medicine in Khorramabad women, west of Iran. *J Pak Med Assoc*, 65(6).
- Anselmsson, J. (2006). Sources of customer satisfaction with shopping malls: a comparative study of different customer segments. *International Review of Retail, Distribution and Consumer Research*, 16(1), 115-138.
- Ardalan, M. R., & Rafieian-Kopaei, M. (2013). Is the safety of herbal medicines for kidneys under question?. *Journal of Nephro pharmacology*, 2(2), 11.
- Aryani, D. N., Singh, P., Liew, Y. W., Kee, D. M. H., Li, Y., Li, J., ... & Arif, W. (2021). How Brand Reputation Influences Customer Satisfaction: A Case Study of Starbucks, Malaysia. *International Journal of Tourism and Hospitality in Asia Pacific (IJTHAP)*, 4(3), 60-72.
- Asadpoor, S., & Abolfazli, A. (2017). Effect of electronic service quality on customer satisfaction and loyalty Saderat Bank's customers. *International Journal of Scientific Study*, 5(4), 407-411.
- Asenahabi, B. M. (2019). Basics of research design: A guide to selecting appropriate research design. *International Journal of Contemporary Applied Researches*, 6(5), 76-89.
- Bahari, M. B., & Ling, Y. W. (2010). Factors contributing to customer satisfaction with community pharmacies in Malaysia. *Journal of Public Health*, 18(1), 35-41.
- Balekundri, A., & Mannur, V. (2020). Quality control of the traditional herbs and herbal products: a review. *Future Journal of Pharmaceutical Sciences*, 6, 1-9.
- Bandaranayake, W. M. (2006). Quality control, screening, toxicity, and regulation of herbal drugs. *Modern phytomedicine: turning medicinal plants into drugs*, 25-57. https://www.researchgate.net/publication/228053545_Quality_Control_Screening_Toxicity_and_Regulation_of_Herbal_Drugs

- Begzjav, T. (2018). In-Flight Service Quality and Perceived Safety with Satisfaction and Loyalty—the case of Mongolian Airline. Griffith University, Mount Gravatt, Australia. 10.13140/RG.2.2.12216.70403
- Bei, L. T., & Chiao, Y. C. (2001). An integrated model for the effects of perceived product, perceived service quality, and perceived price fairness on consumer satisfaction and loyalty. *The Journal of Consumer Satisfaction, Dissatisfaction and Complaining Behavior*, 14, 125-140.
- Bellanger, R. A., Christina M. Seeger, C. M., & Smith, H. E. (2017). Safety of Complementary and Alternative Medicine (CAM) Treatments and Practices. Side Effects of Drugs Annual, *Elsevier*, 39(2017), 503-512. <https://doi.org/10.1016/bs.seda.2017.06.015>.
- Bello, O. (2020). A study of relationship between telecommunications service quality and customer satisfaction in the Nigerian technical and vocational education and training institutions. *Asian Journal of Management*, 11(2), 139-146.
- Bodeker, G. (2005). WHO global atlas of traditional, complementary and alternative medicine (Vol. 1). World Health Organization.
- Börü, N. (2018). The factors affecting teacher-motivation. *International Journal of Instruction*, 11(4), 761-776
- Boshoff, C., & Gray, B. (2004). The relationships between service quality, customer satisfaction and buying intentions in the private hospital industry. *South African Journal of Business Management*, 35(4), 27-37.
- Brata, B. H., Husani, S., & Ali, H. (2017). The Influence of Quality Products, Price, Promotion, and Location to Product Purchase Decision on Nitchi at PT. Jaya Swarasa Agung in Central Jakarta. *Saudi Journal of Business and Management Studies*, 2(4B), 433–445.
- Cai, M., Seligsohn, E. N., Zhang, Z., & Wang, Y. (2019, August). Risk Perception and Product Safety in User-Centered Design. In International Design Engineering Technical Conferences and Computers and Information in Engineering Conference (Vol. 59278, p. V007T06A041). American Society of Mechanical Engineers.
- Camilleri, M. A. (2018). *Market Segmentation, Targeting and Positioning*. In *Travel Marketing, Tourism Economics and the Airline Product* (Chapter 4). Springer, Cham, Switzerland, 69-83.
- Cao, Y., Gruca, T. S., Klemz, B. R. (2003). Internet Pricing, Price Satisfaction and Customer Satisfaction. *International Journal of Electronic Commerce* 8(2), 31-5
- Castells, M., Fernandez-Ardevol, M., Qiu, J. L., & Sey, A. (2009). *Mobile communication and society: A global perspective*. Mit Press.
- Chaurasia, P. K., & Bharati, S. L. (Eds.). (2022). *The Chemistry inside Spices & Herbs: Research and Development: (Volume 1)*. Bentham Science Publishers.
- Chinna, K. & Yuen, C. W. (2015). *Statistical Analysis Using SPSS. (2nd ed.)*. Pearson Malaysia.

- Choi, C., Mattila, A. S., & Upneja, A. (2017). The Effect of Assortment Pricing on Choice and Satisfaction: The Moderating Role of Consumer Characteristics. *Cornell Hospitality Quarterly*, 59(1), 6–14. <https://doi.org/10.1177/193896551773031>
- Choi, K. S., Cho, W. H., Lee, S., Lee, H., & Kim, C. (2004). The relationships among quality, value, satisfaction and behavioral intention in health care provider choice: A South Korean study. *Journal of Business Research*, 57(8), 913-921.
- Chowdhury R. (2023). Impact of perceived convenience, service quality and security on consumers' behavioural intention towards online food delivery services: the role of attitude as mediator. *SN business & economics*, 3(1), 29. <https://doi.org/10.1007/s43546-023-00422-7>
- Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage publications.
- Cronin, J. J. Jr., Brady, M. K. & Hutt, G. T. M. (2000). Assessing the Effects of Quality, Value, and Customer Satisfaction on Consumer Behavioral Intentions in Service Environments. *Journal of Retailing*, 76(2), 193-218.
- Dandan Zhao, Jie Wang, Yanjing Cui, & Xinfang Wu (2012). Pharmacological effects of Chinese herb aconite (Fuzi) on cardiovascular system. *Journal of Traditional Chinese Medicine*, 32(3), 308-313, [https://doi.org/10.1016/S0254-6272\(13\)60030-8](https://doi.org/10.1016/S0254-6272(13)60030-8).
- Ekor M. (2014). The growing use of herbal medicines: issues relating to adverse reactions and challenges in monitoring safety. *Frontiers in Pharmacology*, 4, 177. <https://www.frontiersin.org/articles/10.3389/fphar.2013.00177>
- El-Dahiyat, F., Rashrash, M., Abuhamdah, S., Abu Farha, R., & Babar, Z. U. D. (2020). Herbal medicines: a cross-sectional study to evaluate the prevalence and predictors of use among Jordanian adults. *Journal Of Pharmaceutical Policy and Practice*, 13, 1-9.
- Ginsberg, J. M., & Bloom, P. N. (2004). Choosing the right green marketing strategy. *MIT Sloan Management Review*, 46(1), 79-84.
- Giri, R. P., Gangawane, A. K., & Giri, S. G. (2018). Regulation on herbal product used as medicine around the world: A review. Regulation. <http://ir.paruluniversity.ac.in:8080/xmlui/handle/123456789/7613>
- Goodman, S. (2008, July). A dirty dozen: twelve p-value misconceptions. In *Seminars in haematology*, WB Saunders, 45(3), 135-140.
- Gravetter Frederick, J., & Wallnau Larry, B. (2014). *Essentials of statistics for the behavioral sciences*. Retrieved from [https://www.kau.edu.sa/Files/0006214/Subjects/Frederick%20J%20Gravetter,%20Larry%20B.%20Wallnau-Essentials%20of%20Statistics%20for%20the%20Behavioral%20Sciences-Cengage%20Learning%20\(2013\).pdf](https://www.kau.edu.sa/Files/0006214/Subjects/Frederick%20J%20Gravetter,%20Larry%20B.%20Wallnau-Essentials%20of%20Statistics%20for%20the%20Behavioral%20Sciences-Cengage%20Learning%20(2013).pdf)
- Gregory, C., Lough, S., Stone, V., Erzinclioglu, S., Martin, L., Baron-Cohen, S., & Hodges, J. R. (2002). Theory of mind in patients with frontal variant frontotemporal

- dementia and Alzheimer's disease: theoretical and practical implications. *Brain*, 125(4), 752-764.
- Hajli, M., Hajli, M., & Khani, F. (2013). *Establishing trust in social commerce through social word of mouth*. In 7th International Conference on e-Commerce in Developing Countries: with focus on e-Security (1-22). IEEE.
- Haliru, M., Mokhtar, M. S. S. (2015). The Mediating Effect of Perceived Safety and Trust on The Relationship Between Perceived Justice and Customer Loyalty In The Nigerian Airline Industry. *International Journal of Management Sciences and Business Research*, 4(10) ISSN (2226-8235).
- Handayani, L. (2020). Keuntungan, kendala dan solusi pembelajaran online selama pandemi COVID-19: Studi eksploratif di SMPN 3 Bae Kudus. *Journal of Industrial Engineering & Management Research*, 1(2), 15-23.
- Haq, I. N. (2018). Determination of Price and Customer Satisfaction. *Journal of Economic Studies* 1(2), 97-108. DOI:10.32506/joes.v1i2.179
- Hasim, M. A., Manaf, S. A., Ali, A. M. (2020). Role of Price towards Customer Satisfaction. *European Journal of Molecular & Clinical Medicine*, 7(3). ISSN 2515-8260.
- Hill, N., & Brierley, J. (2017). *How to measure customer satisfaction*. Routledge.
- Ilieska, K. (2013). Customer satisfaction index—as a base for strategic marketing management. *TEM journal*, 2(4), 327.
- Ing, P. G., Zheng Lin, N., Xu, M., & Thurasamy, R. (2019). Customer loyalty in Sabah full service restaurant. *Asia Pacific Journal of Marketing and Logistics*, 32(7), 1407–1429. <https://doi.org/10.1108/APJML-07-2019-0437>
- Islahudin, F., & Hasan, S. Z. (2019). Medication adherence and satisfaction among patients in Malaysia. *Research Journal of Pharmacy and Technology*, 12(3), 1051-1054.
- Jiang, T. A. (2019). Health benefits of culinary herbs and spices. *Journal of AOAC International*, 102(2), 395-411.
- Johnson, E. C., Karlay, J. S. (2018). *Impact of Service Quality on Customer Satisfaction*. Faculty of Education and Business Studies. Liberia Revenue Authority
- Joos, S., Musselmann, B., & Szecsenyi, J. (2011). Integration of complementary and alternative medicine into family practices in Germany: results of a national survey. *Evidence-based complementary and alternative medicine: eCAM*, 2011, 495813. <https://doi.org/10.1093/ecam/nep019>
- Junainah Abd Hamid, & Sairah A. K. (2020). Relationship of herbal drugs with customer satisfaction in Malaysia. *Systematic Reviews in Pharmacy*, 11(1), 192-98. <https://www.sysrevpharm.org/articles>.
- Jung, M., Lee, K. H., & Choi, M. (2009). Perceived service quality among outpatients visiting hospitals and clinics and their willingness to re-utilize the same medical institutions. *Journal of preventive medicine and public health*, Yebang Uihakhoe chi, 42(3), 151–159. <https://doi.org/10.3961/jpmp.2009.42.3.151>

- Kandampully, J., & Suhartanto, D. (2019). Customer loyalty in the hotel industry: The role of customer satisfaction and image. *International Journal of Hospitality Management, 81*, 91-101.
- Kaura, V., Durga Prasad, C. S., & Sharma, S. (2015). Service quality, service convenience, price and fairness, customer loyalty, and the mediating role of customer satisfaction. *International Journal of Bank Marketing, 33*(4), 404-422.
- Kenton, W. (2022). Customer-Driving Pricing Definition, the Effect of E-Commerce. Retrieved from <https://www.investopedia.com/terms/c/customer-driven-pricing.asp>
- Khan, M. S., Saengon, P., Alganad, A. M. N., Chongcharoen, D., & Farrukh, M. (2020). Consumer green behaviour: An approach towards environmental sustainability. *Sustainable Development, 28*(5), 1168–1180. <https://doi.org/10.1002/sd.206>
- Kim, C. E., Shin, J. S., Lee, J., Lee, Y. J., Kim, M. R., Choi, A., Park, K. B., Lee, H. J., & Ha, I. H. (2017). Quality of medical service, patient satisfaction and loyalty with a focus on interpersonal-based medical service encounters and treatment effectiveness: a cross-sectional multicenter study of complementary and alternative medicine (CAM) hospitals. *BMC complementary and alternative medicine, 17*(1), 174. <https://doi.org/10.1186/s12906-017-1691-6>
- Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and psychological measurement, 30*(3), 607-610.
- Kung, F. Y. H., & Scholer, A. A. (2020). The pursuit of multiple goals. *Social and Personality Psychology Compass, 14*(1). <https://doi.org/10.1111/spc3.12509>
- Lee, J. S., Hsu, L. J. H., Han, H. & Kim, Y. (2010). Understanding How Consumers View Green Hotels: How a Hotel's Green Image Can Influence Behavioural Intentions. *Journal of Sustainable Tourism, 18*(7), 901-914.
- Lee, S., & Kim, E. K. (2017). The Effects of Korean Medical Service Quality and Satisfaction on Revisit Intention of the United Arab Emirates Government Sponsored Patients. *Asian Nursing Research, 11*(2), 142–149. <https://doi.org/10.1016/j.anr.2017.05.008>
- Lin, Y., Luo, J., Zhou, L., Ieromonachou, P., Huang, L., Cai, S., & Ma, S. (2014, June). *The impacts of service quality and customer satisfaction in the e-commerce context*. In 2014 11th International Conference on Service Systems and Service Management (ICSSSM) (pp. 1-6). IEEE.
- Lune, H., & Berg, B. L. (2017). *Qualitative research methods for the social sciences*. Pearson.
- Lynch, N., & Berry, D. (2007). Differences in perceived risks and benefits of herbal, over-the-counter conventional, and prescribed conventional, medicines, and the implications of this for the safe and effective use of herbal products. *Complementary Therapies in Medicine, 15*(2), 84-91.
- Madiistriyatno, H., & Nurzaman, F. (2020). The Impact of Product Quality and Price on Consumer Satisfaction of PD Jamu Seduh Utama Pamanukan. *International Journal of Progressive Sciences and Technologies, 23*(2), 639-643.

- Manikandan, S. (2011). Measures of central tendency: Median and mode. *Journal of pharmacology and pharmacotherapeutics*, 2(3), 214.
- Mariadas, P. A., Selvanathan, M., & Hong, T. K. (2016). A study on housing price in Klang Valley, Malaysia. *International Business Research*, 9(12), 103-109.
- Marimuthu, M. (2019). Young mothers' acceptance of herbal food supplements: Centred on preventive health behaviour for children. *Journal of Retailing and Consumer Services*, 51, 311-319.
- Martin, K. D., Roter, D. L., Beach, M. C., Carson, K. A., & Cooper, L. A. (2013). Physician communication behaviors and trust among black and white patients with hypertension. *Medical Care*, 51(2), 151.
- McCombes, S. (2021). *An introduction to sampling methods*. Scribbr. <https://www.scribbr.com/methodology/sampling-methods/>.
- McKay, T. H., & Plonsky, L. (2020). *Reliability analyses: Estimating error*. In *The Routledge handbook of second language acquisition and language testing*. Routledge 468-482.
- Meesala, A., & Paul, J. (2018). Service quality, consumer satisfaction and loyalty in hospitals: Thinking for the future. *Journal of Retailing and Consumer Services*, 40, 261-269.
- Mehmood, S. M., & Najmi, A. (2017). Understanding the impact of service convenience on customer satisfaction in home delivery: Evidence from Pakistan. *International Journal of Electronic Customer Relationship Management*, 11(1), 23-43.
- Mehmood, Syeda & Najmi, Arsalan (2017). Understanding the impact of service convenience on customer satisfaction in home delivery: Evidence from Pakistan. *International Journal of Electronic Customer Relationship Management*. 11. 23. 10.1504/IJECRM.2017.086752.
- Mkhomazi, S. S., & Iyamu, T. (2013). A Guide to Selecting Theory to Underpin Information Systems Studies. In Y. K. Dwivedi, H. Z. Henriksen, D. Wastell, & R. De' (Eds.), *Grand Successes and Failures in IT. Public and Private Sectors*. 402, 525-537). Springer Berlin Heidelberg. https://doi.org/10.1007/978-3-642-38862-0_33
- Montolalu, M. T. (2013). The Impact of Service Quality and Price to Customer Satisfaction and Customer Loyalty in Swiss-Belhotel Maleosan Manado. *Jurnal EMBA: Jurnal Riset Ekonomi, Manajemen, Bisnis Dan Akuntansi*, 1(4).
- Mpinganjira, M. (2015). Online Store Service Convenience, Customer Satisfaction and Behavioural Intentions: A Focus on Utilitarian Oriented Shoppers. *Journal of Economics and Behavioral Studies*, 7(1), 36-49. [https://doi.org/10.22610/jebs.v7i1\(I\).561](https://doi.org/10.22610/jebs.v7i1(I).561)
- Muhammad Jihad, S. (2018). *Formulation of Momordica charantia fruit and Syzygium polyanthum leaf extracts based on in vitro antioxidant and inhibitory activity of α -amylase and α -glucosidase*/Muhammad Jihad Sandikapura. Doctoral dissertation, University of Malaya.

- Mukherjee, S. S., Kontz, M., & Reinhardt, S. K. (2002). Detailed design and evaluation of redundant multithreading alternatives. *ACM SIGARCH Computer Architecture News*, 30(2), 99-110.
- Mulhern, F. J., & Leone, R. P. (1991). Implicit price bundling of retail products: A multiproduct approach to maximizing store profitability. *Journal of Marketing*, 55(4), 63-76.
- Naini, N. F., Santoso, S., Andriani, T. S., & Claudia, U. G. (2022). The effect of product quality, service quality, customer satisfaction on customer loyalty. *Journal Of Consumer Sciences*, 7(1), 34-50.
- Naja, F., Alameddine, M., Itani, L., Shoaib, H., Hariri, D., & Talhouk, S. (2015). The Use of Complementary and Alternative Medicine among Lebanese Adults: Results from a National Survey. *Evidence-based complementary and alternative medicine: eCAM*, 2015, 682397. <https://doi.org/10.1155/2015/682397>
- Normina, A. B., Noradhiah, T., Y. B., H., C. K., T., Kandiah, M., Aris, A. Z., & Tan, E. S. S. (2019). Consumption of Malay Herbal Medicine (MHMs) During Pregnancy and Postpartum. *Indian Journal of Public Health*, 10(04), 1297.
- Ole Kinisa, G. R. (2019). The Effect of Customer Satisfaction on Sustainable Cash Flow in Urban Water Supply and Sanitation Authorities; A Case Study of Arusha Urban Water Supply and Sanitation. *International Journal of Scientific and Research Publications*, 9(3). <https://doi.org/10.29322/IJSRP.9.03.2019.p8729>
- Opping, P. K. (2020). The Effect of Brand Credibility, Brand Image and Customer Satisfaction on Behavioural Intentions in Traditional Medicine Market. *Journal of Social and Development Sciences*, 11(4 (S)), 15-25.
- Pauzi, N. A. M., Cheema, M. S., Ismail, A., Ghazali, A. R., & Abdullah, R. (2022). Safety assessment of natural products in Malaysia: current practices, challenges, and new strategies. *Reviews On Environmental Health*, 37(2), 169-179.
- Peck, R., Mghamba, J., Vanobberghen, F., Kavishe, B., Rugarabamu, V., Smeeth, L., ... & Kapiga, S. (2014). Preparedness of Tanzanian health facilities for outpatient primary care of hypertension and diabetes: a cross-sectional survey. *The lancet global health*, 2(5), e285-e292. [https://doi.org/10.1016/S2214-109X\(14\)70033-6](https://doi.org/10.1016/S2214-109X(14)70033-6)
- Philo, C. (1997). Across the water: reviewing geographical studies of asylums and other mental health facilities. *Health & Place*, 3(2), 73-89. [https://doi.org/10.1016/S1353-8292\(97\)00002-6](https://doi.org/10.1016/S1353-8292(97)00002-6)
- Posadzki, P., Watson, L. K., & Ernst, E. (2013). Herb-drug interactions: An overview of systematic reviews. *British Journal of Clinical Pharmacology*, 75(3), 603-618. doi: 10.1111/j.1365-2125.2012.04350.x
- Prihartono, B., Nisa, A. S., & Sari, H. (2022). *Customer Loyalty Model Development of Pool-To-Pool Shuttle Service*. In Proceedings of the 2022 International Conference on Engineering and Information Technology for Sustainable Industry. 1-5.

- Rambocas, M., Kirpalani, V. M., & Simms, E. (2018). Brand equity and customer behavioral intentions: a mediated moderated model. *International Journal of Bank Marketing*, 36. 10.1108/IJBM-09-2016-0139.
- Raue, M., Streicher, B., Lermer, E. (2019). *Perceived Safety - A Multidisciplinary Perspective*. Springer International Publishing. Risk Engineering. <https://www.springerprofessional.de/en/perceived-safety/16543056>
- Raymond, M. A., & Tanner Jr, J. F. (1994). Selling and sales management in action: Maintaining customer relationships in direct sales: Stimulating repeat purchase behavior. *Journal of Personal Selling & Sales Management*, 14(4), 67-76.
- Razak, I., Nirwanto, N., & Triatmanto, B. (2016). The Impact of Product Quality and Price on Customer Satisfaction with the Mediator of Customer Value. *Journal of Marketing and Consumer Research*, 30(0), 59–68.
- Rezai, G., Teng, P. K., Shamsudin, M. N., Mohamed, Z., & Stanton, J. L. (2017). Effect of perceptual differences on consumer purchase intention of natural functional food. *Journal of Agribusiness in Developing and Emerging Economies*, 7(6). <http://dx.doi.org/10.1108/JADEE-02-2015-0014>
- Rigby, D. K., Reichheld, F., & Dawson, C. (2003). Winning customer loyalty is the key to a winning CRM strategy. *Ivey Business Journal*, 67(4), 1.
- Rigopoulou, I. D., Chaniotakis, I. E., Lymperopoulos, C., & Siomkos, G. I. (2008). After-sales service quality as an antecedent of customer satisfaction: The case of electronic appliances. *Managing Service Quality: An International Journal*.
- Ringle, C. M., Sarstedt, M., Zimmermann, L. (2014). Customer Satisfaction with Commercial Airlines: The Role of Perceived Safety and Purpose of Travel. *Journal of Marketing Theory and Practice*. 459-472. <https://doi.org/10.2753/MTP1069-6679190407>
- Robinson, M. M., & Zhang, X. (2020). *Traditional medicines: global situation, issues and challenges*. *The World Medicines Situation 2011*. Geneva: WHO.
- Ryu, K., Han, H. & Kim, T. H. (2012). The Relationships among Overall Quick-causal Restaurant Image, Perceived Value, Customer Satisfaction, and Behavioural Intentions. *International Journal of Hospitality Management*, 27, 459-469.
- Salomonsen L, Grimsgaard A.S., & Fønnebø V. (2003). Use of alternative medicine in Norwegian hospitals (Bruk av alternative behandling ved norske sykehus). *Tidsskr Nor Lægeforen*, 123, 631-3.
- Salomonsen, L., Skovgaard, L., & Cour, S., Nyborg, L., Launsø, L., & Fønnebø, V. (2011). Use of complementary and alternative medicine at Norwegian and Danish hospitals. *BMC complementary and alternative medicine*. 11. 4. 10.1186/1472-6882-11-4.
- Schindler, R. M. (1988). The role of ego-expressive factors in the consumer's satisfaction with price. *The Journal of Consumer Satisfaction, Dissatisfaction and Complaining Behavior*, 1, 34-39.

- Sharma, S. (2016). Using SERVQUAL to assess the customer satisfaction level: A Study of an urban Cooperative Bank. *Journal of economics and public finance*, 2(1), 57-85.
- Shaw, D. (1998). Risks or remedies? Safety aspects of herbal remedies in the UK. *Journal of the Royal Society of Medicine*, 91(6), 294-296.
- Sinambela, M. W. C., Panjaitan, N. K., & Dirdjosuparto, S. (2019). The effect of nurse perception in work incentive and satisfaction systems on organizational citizenship behavior: A case study at governmental hospital. *Russian Journal of Agricultural and Socio-Economic Sciences*, 86(2), 137-147. <https://doi.org/10.18551/rjoas.2019-02.16>
- Siregar, R. S., Supriana, T., & S Haryanti, S. (2018). The effect of consumers' perception to the satisfaction of use of traditional medicines in Medan. International Conference on Agriculture, Environment, and Food Security. IOP Conf. Series: *Earth and Environmental Science*, 122(2018) 012004. doi :10.1088/1755-1315/122/1/012004
- Slack, N., Singh, G., & Sharma, S. (2020). Impact of perceived value on the satisfaction of supermarket customers: Developing country perspective. *International Journal of Retail & Distribution Management*, 48(11), 1235-1254. <https://doi.org/10.1108/IJRDM-03-2019-0099>
- Snyder, F. J., Dundas, M. L., Kirkpatrick, C., & Neill, K. S. (2009). Use and safety perceptions regarding herbal supplements: a study of older persons in southeast Idaho. *Journal of Nutrition for the Elderly*, 28(1), 81-95.
- Sparks, B. A., & McColl-Kennedy, J. R. (2001). Justice strategy options for increased customer satisfaction in a services recovery setting. *Journal of Business Research*, 54(3), 209-218.
- Srivastava, M., & Kaul, D. (2014). Social interaction, convenience and customer satisfaction: The mediating effect of customer experience. *Journal of Retailing and Consumer Services*, 21(6), 1028-1037.
- Srivastava, S., & Misra, A. (2018). Quality control of herbal drugs: Advancements and challenges. *New Age Herbals: Resource, Quality and Pharmacognosy*, 189-209.
- Stefan, V., van Herpen, E., Tudoran, A. A., & Lähteenmäki, L. (2013). Avoiding food waste by Romanian consumers: The importance of planning and shopping routines. *Food Quality and Preference*, 28(1), 375-381.
- Stub, T., Musial, F., Kristoffersen, A. A., Alræk, T., & Jianping Liu (2016). Adverse effects of homeopathy, what do we know? A systematic review and meta-analysis of randomized controlled trials. *Complementary Therapies in Medicine*, 26, 146-163, <https://doi.org/10.1016/j.ctim.2016.03.013>.
- Sudarso, S., & Sukiman, S. (2022). Analysis of The Influence of Product Quality and Price on Customer Loyalty Through Customer Satisfaction as An Intervening Variable in Restaurants Hisana Fried Chicken Surabaya. *Sinergi: Jurnal Ilmiah Ilmu Manajemen*, 12(2), 63-70.
- Swan, J. E., & Oliver, R. L. (1989). Postpurchase communications by consumers. *Journal of Retailing*, 65(4), 516.

- Tarip, I. (2020). Al-Ghazali on the head, heart and hand tripartite, and its organisational implications. *International Journal of Umranic Studies*, 3(2), Page 1–12.
- Taylor, S. A., & Baker, T. L. (1994). An assessment of the relationship between service quality and customer satisfaction in the formation of consumers' purchase intentions. *Journal of Retailing*, 70(2), 163-178.
- Temba, M. L. (2013). The Assessment of Service Quality and Customer Satisfaction using SERVQUAL Model: A Case Study of Tanzania Telecommunications Company Limited (TTCL). Digital Library of Open University of Tanzania. oai:repository.out.ac.tz:937
- Tengku Mohamad, T. A. S., Islahudin, F., Jasamai, M., & Jamal, J. A. (2019). Preference, perception and predictors of herbal medicine use among Malay women in Malaysia. Patient preference and adherence, Dove Medical Press Limigted, 1829-1837.
- Tepeci, M. (1999). Increasing brand loyalty in the hospitality industry. *International Journal of Contemporary Hospitality Management*, 11(5), 223-230.
- van Wyk A. S., & Prinsloo, G. (2020). Health, safety and quality concerns of plant-based traditional medicines and herbal remedies. *South African Journal of Botany*, 133(2020), 54-62, <https://doi.org/10.1016/j.sajb.2020.06.031>.
- Verma, S. B., Panda, S., Nenoff, P., Singal, A., Rudramurthy, S. M., Uhrlass, S., ... & Vasani, R. (2021). The unprecedented epidemic-like scenario of dermatophytosis in India: I. Epidemiology, risk factors and clinical features. *Indian journal of dermatology, venereology and leprology*, 87(2), 154-175.
- Wampold, B. E., & Freund, R. D. (1987). Use of multiple regression in counseling psychology research: A flexible data-analytic strategy. *Journal of Counseling Psychology*, 34(4), 372.
- Wang, S., & Alexander, P. (2018). The factors of consumer confidence recovery after scandals in food supply chain safety. *Asia Pacific Journal of Marketing and Logistics*, 30(5), 1379-1400.
- Wantara, P., & Tambrin, M. (2019). The Effect of price and product quality towards customer satisfaction and customer loyalty on madura batik. *International Tourism and Hospitality Journal*, 2(1), 1-9.
- Westbrook, R. A., & Reilly, M. D. (1983). Value-percept disparity: an alternative to the disconfirmation of expectations theory of consumer satisfaction. *ACR North American Advances*.
- Wilson, J. (2009). Social networking: the business case. *Engineering & Technology*, 4(10), 54-56.
- Wilson, N. (2022). Price Satisfaction vs Product Quality: Which factor has a more significant effect on customer loyalty toward green products? DeReMa (Development Research of Management) *Jurnal Manajemen*, May 2022
- Wirtz, J., & Lovelock, C. (2019). *Essentials of services marketing*. Pearson.

- World Health Organization. (2007). *WHO guidelines for assessing quality of herbal medicines with reference to contaminants and residues*. World Health Organization. <https://apps.who.int/iris/handle/10665/43510>
- World Health Organization. (2008). *Traditional medicine: Fact Sheet No. 134*. Geneva: World Health Organization.
- Yan, P., Hong, T. K., & Alshagga, M. (2021). Prevalence of herbal products use and perceptions on drug-herb interactions among university students in Klang Valley Malaysia-a cross sectional study. *Bangladesh Journal of Medical Science*, 20(2), 361-367.
- Zeithaml, V. A. (1988). Consumer perceptions of price, quality, and value: a means-end model and synthesis of evidence. *Journal of marketing*, 52(3), 2-22.
- Zhu, W., Mou, J., & Benyoucef, M. (2019). Exploring purchase intention in cross-border E-commerce: A three stage model. *Journal of Retailing and Consumer Services*, 51, 320-330.
- Zikmund-Fisher, B. J., Couper, M. P., & Fagerlin, A. (2012). Disparities in patient reports of communications to inform decision making in the decisions survey. *Patient Education and Counseling*, 87(2), 198-205.
- Zygiaris, S., Hameed, Z., Ayidh Alsubaie, M., & Ur Rehman, S. (2022). Service quality and customer satisfaction in the post pandemic world: A study of Saudi auto care industry. *Frontiers in Psychology*, 13, 690.

Creative Commons licensing terms

Author(s) will retain the copyright of their published articles agreeing that a Creative Commons Attribution 4.0 International License (CC BY 4.0) terms will be applied to their work. Under the terms of this license, no permission is required from the author(s) or publisher for members of the community to copy, distribute, transmit or adapt the article content, providing a proper, prominent and unambiguous attribution to the authors in a manner that makes clear that the materials are being reused under permission of a Creative Commons License. Views, opinions and conclusions expressed in this research article are views, opinions and conclusions of the author(s). Open Access Publishing Group and European Journal of Public Health Studies shall not be responsible or answerable for any loss, damage or liability caused in relation to/arising out of conflicts of interest, copyright violations and inappropriate or inaccurate use of any kind content related or integrated into the research work. All the published works are meeting the Open Access Publishing requirements and can be freely accessed, shared, modified, distributed and used in educational, commercial and non-commercial purposes under a [Creative Commons Attribution 4.0 International License \(CC BY 4.0\)](https://creativecommons.org/licenses/by/4.0/).