

THE PURCHASE INTENTION MODEL TO HYDROGEN BEVERAGE OF CUSTOMERS IN BANGKOK METROPOLIS

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Abstract:

Although Hydrogen beverage are approved by the U.S. Food and drug administration, they are not often consumed in Thailand, Therefore, the purchase intention of consumers is essential to the expansion of hydrogen beverage business. The research objectives were: 1) to study the level of perceptions of quality, trust, perceptions of risk and perceptions of value that affects the purchase intention of hydrogen beverage; 2) to study the influence of perceptions of quality, trust, perceptions of risk and perceptions of value that affects the purchase intention of hydrogen beverage; and 3) to model of consumers' purchase intentions of hydrogen beverage in Bangkok. This research used mixed research method which is quantitative research and qualitative research. In the quantitative research, sample consisted of 300 people aged 20-60 years living in Bangkok, obtained by stratified sampling. The research instrument was a questionnaire. Data were analyzed using a structural equation model. In qualitative research, In-depth interviews were used with 16 key informants, such as 1) government and private executives who involved in the beverage industry/health drink, total 8 people, and 2) eight people who consumed healthy beverages. The results of the research showed that 1) perceptions of quality, trust, perceptions of risk, the perceptions of value, and purchase intention of hydrogen beverages were all at a high level; 2) perceptions of risks, perceptions of value, trust, and perceptions of quality were directly influenced to the purchase intention of hydrogen beverage in Bangkok significantly at the $p < .0$, respectively; and 3) consumers' purchasing intentions of hydrogen beverages model of the consumers in Bangkok are as follows: (1) perception of information on the quality of Hydrogen beverages, in particular, are safe for their health, (2) brand trust with consumer communicated that hydrogen beverage do not pose a health risk; (3) consumer's expectations for their health and benefits they receive from the hydrogen beverage; (4) searching for more hydrogen beverage information; and (5) comparing the price of the hydrogen beverage that consumers must spend to support a purchasing decision. Therefore, those involved in the hydrogen beverage business should consistently communicate information about the brand, certified standards as well as the quality of hydrogen beverages to consumers and through a number of channels in order to foster consumer trust and lead to future purchases of hydrogen beverage.

Keywords: Purchase Intention/ Hydrogen Beverage/ Perception/Trust

Introduction

Hydrogen drinks have safety properties and health benefits Through the authorization of the Food Additive Safety Assessment List (generally recognized as safe: GRAS) by the U.S. Food and Drug Administration (USFDA), hydrogen drinks are researched to prevent and treat diseases related to the body's metabolism such as diabetes, hyperlipidemia, hypertension, clogged arteries, obesity, and improved oxygen consumption. Patients with metabolism syndrome drank 1.5-2 liters of hydrogen water per day for 8 weeks, a statistically significant 39 percent increase in antioxidant enzymes at .05 levels, 13 percent higher levels of HDL cholesterol, 13 percent decrease in cholesterol in the bloodstream, and drinking hydrogen-rich water as a new treatment and prevention

guide for patients with metabolic syndrome. In line with LeBaron et al. (2020), a 24-week study of the effects of concentrated hydrogen hydration in patients with metabolic syndrome found that concentrated hydrogen hydration reduced cholesterol levels. Blood sugar levels and blood sugar levels (H_g A1C) have been statistically significantly reduced, as well as reduced inflammation and maintained a better balance than patients receiving regular drinking water. In addition, patients who get concentrated hydrogen water have a body mass index. (Body mass index: BMI) and the ratio between the waist and hips is also reduced.

A study by Mizuno et al. (2017) using double blind experimental research was that both groups of volunteers did not know what they were drinking. It was found that the group that drank hydrogen water had an increase in mood-related central nervous system function and autonomic neural function, and the experimental group assessed themselves for reduced stress. This is consistent with the study of Kang et al. (2011) experimental research. The trial group drank hydrogen water for 6 weeks, the control group drank normal water, and the experimental group showed a decrease in the blood oxygen metabolism rate, and quality of life scores during radiation therapy improved statistically significantly. A study by Sim et al. (2020) found that hydrogenated drinking water improves antioxidants and reduces inflammation in healthy adults, thus being recognized as one of the healthiest drinks. And Gu et al. (2021) studies have found that drinking hydrogenated water can reduce peripheral artery coagulation, reduce blood lipid levels, reduce inflammation and stress, as well as increase levels of good cholesterol (HDL), reduce peripheral artery disease caused by risk factors such as smoking, high blood pressure, hyperlipidemia, and diabetes.

Hydrogen drinks have health benefits, but hydrogen drinks are found to be new in Thailand, some entrepreneurs import hydrogen water drinks for sale, but hydrogen water generators have high prices ranging from thousands of Baht to hundreds of thousands of Baht, making it difficult for people to access hydrogen water drinks. There are no major bottled beverage industry operators entering the hydrogen beverage market, depriving the Thai public of the opportunity to consume hydrogen beverages, especially the people of Bangkok.

Research Objectives

1. To study the level of quality perception, trust, risk perception, value perception and intention to buy a drink.
2. To study the influence of quality perception, trust, risk perception, and value perception that affects the intention to buy hydrogen drinks.
3. To present a model of consumer hydrogen beverage purchase intentions. in Bangkok

Research Hypothesis

1. Quality perception, trust, risk perception, and value perception affect your intention to buy hydrogen drinks.
2. Quality perception, trust, and risk perception affect value perception.
3. Quality perception and trust affect risk perception.
4. Quality perception affects trust.

Research Conceptual Framework

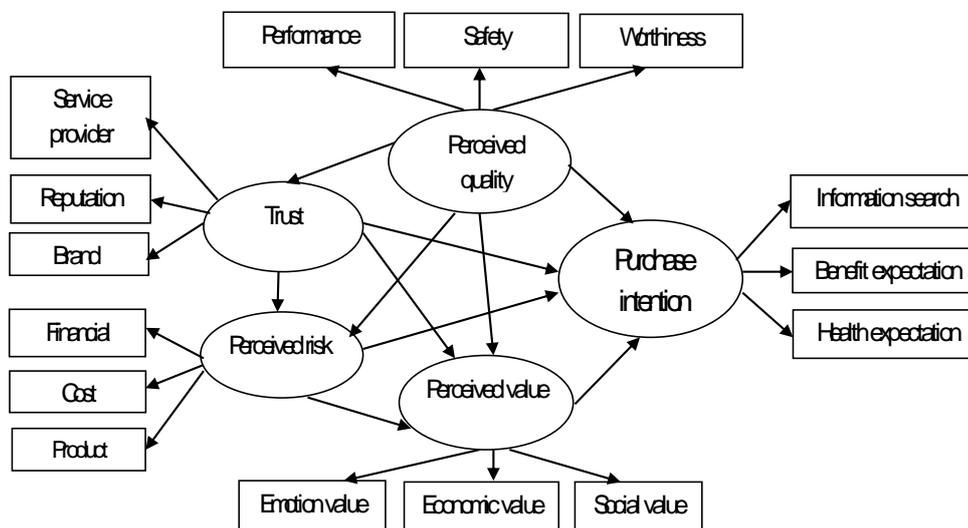


Figure 1: Research Conceptual Framework

Research Methodology

This research uses mixed methods of research, i.e., quantitative research and qualitative research.

Quantitative Research: A Sample of People Living in Bangkok 300 people aged between 20-60 years old can be systematically randomized. Check the quality of the tool by finding content-based match values between .67-1.00, the confidence of the entire questionnaire is .995.

Qualitative research: Use semi-structured interviews and in-depth interviews with key informants, namely public and private executives involved in the beverage and drinking water industries, 8 people and health drink consumers, 8 people, total 16 people.

Findings

1. The level of the five factors studied, the sample commented on as a whole, was very high. Buying hydrogen drinks has the highest average, and quality perceptions are the least average. Proposed according to Table 1.

Table 1: Mean levels, standard deviations, and sequence of factors studied

Factors studied	\bar{X}	S.D.	Interpret the results	Order
Quality Recognition	3.54	0.67	high	5
Trust	3.78	0.67	high	4
Risk perception	3.81	0.69	high	2
Value recognition	3.81	0.69	high	2
Intention to buy hydrogen drinks	3.83	0.67	high	1

2. Structural equation analysis to study the influence of quality perception, trust, risk perception, and value perception on hydrogen beverage buying intentions.

A model of the relationship structure based on assumptions (Estimates) can be presented according to Figure 2.

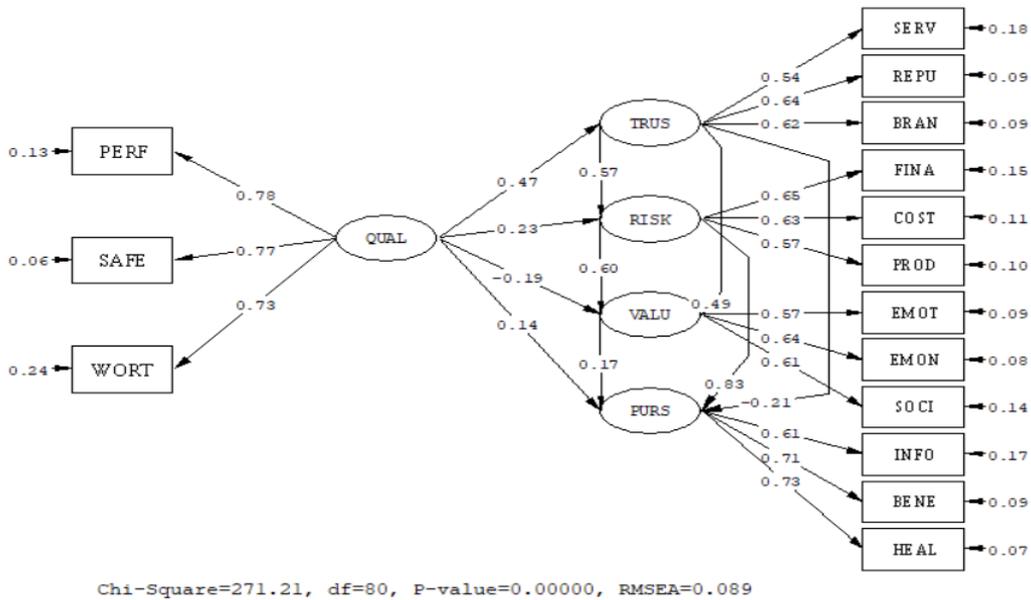


Figure 2: Modeling the structure of relationships based on assumptions (Estimates)

From Figure 2, the results of the analysis of the relationship structure model based on research hypotheses. It was found that the variables manifested in each latent variable of the model based on the hypothesis of the research are actually indicators based on the conceptual framework of the research, which corresponds to the gauge model. When considering causal relationships, there are statistically significant correlation lines, and not statistically significant. In addition, there is an index to measure the conformity of non-standard models, so model modification presents an alternative structural model, according to Figure 3.

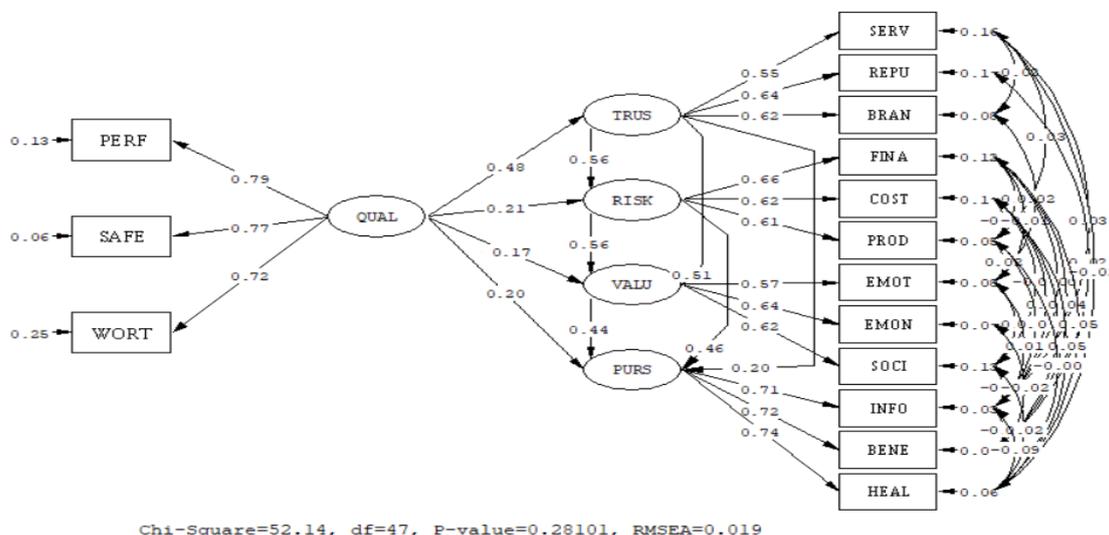


Figure 3: Alternative relationship structure model (Estimates)

The results of comparing hypothesized models and alternative models show that alternative models are more appropriate and can be put to good use. By examining structural directness by examining the harmony between hypothetical patterns and empirical data and alternative patterns with empirical data. Based on statistical values, it measures the degree of harmony and the index measures harmony consistency. As shown in table 2.

Table 2: results comparing models based on research hypotheses with alternative models and their implications.

List	Statistical Values	Model Based on Assumptions	Alternative Models	Meaning
1. Chi-square	*Low Near 0	271.21	52.14	Suitable
	*Equals df	80	47	
Relative Chi-square	Quotient by df < 2	3.39	1.11	Suitable
2. GFI	>.90	0.89	0.98	Suitable
3. AGFI	>.90	0.84	0.94	Suitable
4. RMR	Approach 0	0.022	0.014	Suitable
5. RMSEA	<.05	0.089	0.019	Suitable
6. CFI	*0-1	0.98	1.00	Suitable
7. CN	> 200	125.48	391.27	Suitable

It can present the influence of the factors studied that affect consumers' intentions to buy hydrogen drinks in Bangkok, table 3.

Table 3: Hypothetical test results

Research Hypothesis	Path Coefficient	t statistic	Result
Hypothesis 1: Quality perception, trust, risk perception, and value perception affect your intention to purchase hydrogen beverages.			
1.1 Quality perception affects the intention to buy hydrogen drinks (QUAL --> PURS)	0.20**	4.08	Support
1.2 Trust affects intention to buy hydrogen beverages (TRUS --> PURS)	0.20**	2.92	Support
1.3 Risk perception affects the intention to buy hydrogen drinks (RISK --> PURS)	0.46**	3.84	Support
1.4 Value perception affects the intention to buy hydrogen beverages (VALU --> PURS)	0.44**	3.62	Support
Hypothesis 2: Perception of quality, trust, and perception of risk affects the perception of value.			
2.1 Quality perception affects the perception of value (QUAL --> VALU)	0.17**	4.35	Support
2.2 Trust affects value perception (TRUS --> VALU)	0.51**	8.65	Support
2.3 Risk perception affects the perception of value (RISK --> VALU)	0.56**	9.50	Support
Assumption 3: Quality perception and trust affect risk perception			
3.1 Quality perception affects risk perception (QUAL --> RISK)	0.21**	3.91	Support
3.2 Trust affects risk perception (TRUS --> RISK)	0.56**	9.15	Support
Hypothesis 4: Quality perception affects trust.			
4.1 Quality perception affects trust (QUAL --> TRUS)	0.48**	7.73	Support

3. Patterns of hydrogen beverage purchase intentions of consumers in Bangkok As follows: (1) Recognition of quality data of hydrogen drinks, especially in health safety (2) brand reliance on which consumers are communicated that hydrogen drinks pose no health risks (3) health expectations and benefits to consumers' hydrogen drinks; (4) finding additional hydrogen beverage data and (5) comparing the prices of hydrogen drinks that consumers have to pay for their purchasing decisions.

Discussion

Discussion of research findings in response to three research objectives:

1. Quality perception, trust, risk perception, value perception and intention to buy hydrogen drinks are at a level. The details are as follows:

1.1 The perception of the quality of hydrogen drinks is very important, the quality that consumers perceive that what they intend to buy has a positive benefit to themselves if hydrogen drinks are

consumed, quality perception affects the consumer's purchasing intentions. In line with Chao & Uhagile (2020), it has been found that consumers' willingness to buy is heavily influenced by their perception of health benefits, quality perceptions, and food safety as good predictors of consumers' purchasing intentions. Kumar et al. (2017) stated that brand awareness, quality awareness, brand trust, and brand loyalty significantly affected health drinks' intentions. And Prakash & Srivastava (2019) states that the perception of the quality of a product or product is critical to business efficiency. By reducing costs, customer satisfaction, loyalty, and profitability of businesses, quality perceptions are critical to consumers' intentions or purchasing decisions.

1.2 Trust in hydrogen drinks is very important, belief is an individual's sense of having to recognize the attributes of a product or product before giving rise to confidence, trust in order to lead to a purchase intention. Rubio et al. (2017) state that trust is a group of beliefs held by individuals that comes from a perception of certain attributes, a reputation in marketing related to the products or services and establishments they buy and sell, and that the name is very important to a person's decision-making. Doherty & Ellis-Chadwick (2015) states that the main thing that undermines a client's trust the most is lies, honesty on whatever side is the customer's priority, the client trusts honest entrepreneurs, and honesty creates a long-term relationship. And the Lim & Goh (2019) study found that attitudes, subjective norms, perceptions, behavioral control, and trust influence consumers' willingness to buy healthy drinks. In addition to that trust and brand awareness are positively correlated with consumers' attitudes towards healthy drinks, trust is very important to consumers' intentions to buy hydrogenated beverages.

1.3 The perceived risk of hydrogen drinks is very high. Hydrogen drinks are not yet prevalent in Thailand, so consumers pay attention to risk perceptions because if hydrogen drinks are at risk. But on the other hand, if consumers recognize that hydrogen drinks are not at risk, but whose quality and health benefits will inevitably result in the intention to consume hydrogen beverages. Naami et al. (2017) studied economic, emotional and social value perceptions, risk perceptions, and price positively influenced a customer's buying intentions. In line with the Rong-Da & Lim (2020) study, health consciousness, health risks, attitudes towards organic foods, and rely on labeling are key factors in boosting consumers' willingness to buy organic food. In line with the Bhatti et al. (2020) study, financial risk, privacy risk, and product risk influence online buying behavior. If customers are aware of the risks of reducing their purchases online, the risk perception of hydrogen drinks affects consumers' intentions to buy hydrogen drinks.

1.4 Recognizing the value of hydrogen drinks is of great importance. When consumers recognize that hydrogen drinks are of high quality and self-benefit, as well as the distinctive properties of hydrogen drinks, it is a recognition of the expected value of consuming hydrogen beverages, resulting in consumers intending to purchase hydrogen beverages. In line with Kotler & Keller (2009), value perception refers to perceived benefits as a sense of fulfillment with what is received for a product or service, influencing trust and long-term relationships between the organization and the customer. In line with the De Vries & Carlson (2014) study, it was found that consumers with higher value perception behaviors are more likely to have an engagement and engagement with a product or service than consumers who do not have value perception. And in line with Chang et al. (2020)

studies, students' health drink buying intentions are greatly affected by their perception of health value, and health value is an important predictor of healthy beverage purchasing intentions, so value perception is critical to consumers' hydrogen beverage buying intentions.

2. The influence of quality perception, trust, risk perception, and value perception that affects buying intentions. Hydrogen drinks from the analysis of structural equation models. as follows:

2.1 Risk perception, value perception, trust and quality perception have a direct influence on consumers' intentions to buy hydrogen beverages in Bangkok significant at the .01 level, as follows:

2.1.1 Risk perception has a direct influence on consumers' willingness to buy hydrogen drinks in Bangkok. It can be explained that risk perception is important for the intention of buying a product or product, since before making a purchase decision, consumers usually have a quality assessment and the benefits to be gained from the product first, along with a risk assessment. If a product or product is found to be a particular health risk, the consumer may choose not to purchase the product or product.

In line with the Dachyar & Banjarnahor (2017) study, the study found that trust, risk perception, quality perception, and perceived benefits had a significant impact on the purchasing intentions of private company employees. Beyond that, Younus et al. (2015) studied identifying factors that influence a customer's buying intentions. Found that customer knowledge, Risk perception and perception of the value of goods affect the intention to purchase goods.

2.1.2 Value perception has a direct influence on consumers' intentions to buy hydrogen beverages in Bangkok. It can be explained that a product or product has a different value, with the consumer providing value. The value of a consumer's product or product will vary according to the mindset. However, if the consumer has a perception of the value of a product or product, it is easier to decide to buy a product or product. In line with marhaban et al. (2020), the study found that customer experience, attitudes, value perceptions, benefit perceptions, and health backgrounds influence consumers' intentions to purchase health products.

2.1.3 Trust has a direct influence on consumers' intentions to buy hydrogen drinks in Bangkok. It describes the consumer's intention or decision to purchase a product or product. In part, there must be trust involved, because consumers, if they do not trust the product or the product, will not dare to make a purchase decision or have no intention of buying. According to Doherty & Ellis-Chadwick (2015), there are many factors that cause customer loss, but the key factor is lying to customers, being dishonest, and causing a lack of trust. In addition, Kumar et al. (2017) studies have found that brand awareness, quality awareness, brand trust, and brand loyalty significantly affect health drinks' intentions.

2.1.4 Quality awareness has a direct influence on consumers' willingness to buy hydrogenated beverages in Bangkok. It can be explained that the quality of a product or product is important to the consumer's perception as a factor that builds confidence, trust before the consumer decides to buy. Therefore, the perception of quality affects the willingness to buy. In line with the Chao & Uhagile (2020) study, consumers' purchasing intentions are strongly influenced by

their perception of health benefits to environmentally friendly food products, quality perceptions, and food safety. In line with Chang et al. (2020) studies, students' intentions to buy healthy drinks are greatly affected by their health values. Their trust and health value are important predictors of healthy beverage buying intentions.

2.2 Risk perception, trust, and quality perception have a direct influence on the perception of value. The statistical significance at the .01 level is as follows:

2.2.1 Risk perception has a direct influence on the perception of value statistically significantly. It can be explained that before the occurrence of an intention to buy or purchase, the consumer needs to have information about the product or product in order to take into account how the product or product has benefits or harms. It is considered to be a risk perception and to recognize the value of a product or product before making a purchase decision, especially as a product that is related to consumption in the body. Consumers need to be aware of the risks first. In line with the Uslu & Karabulut (2018) study, it was found that risk perception influences the perception of value and affects tourists' reintroduction intentions. In line with the Agarwal & Teas (2015) study, it was found that perception of performance risk and financial risk is a medium that affects the perception of value and the perception of quality among students.

2.2.2 Trust has a direct influence on the perception of value statistically significantly. It can be explained that a consumer's trust in a product or product is an important factor of their intention to buy or buy, because when a consumer trusts, it creates a perception of value that leads to a purchasing decision. In line with Chang et al. (2014) studies, it was found that trust is positively influenced by website quality, purchase intentions are positively influenced by trust. In addition, the perception of the quality of the website is correlated with trust, and a strong perception of trust increases the perception of value and purchase intentions. In addition, the Gogoi & Shillong (2021) study found that customer trust significantly influences customer value perception and brand loyalty.

2.2.3 Quality perception has a direct influence on the perception of value statistically significantly. It can be explained that the perception of product quality or product importance is a factor that builds confidence and trust before consumers make a purchase decision. If a product or product is devoid of quality, the consumer does not want to buy it because the product is useless to himself, value perception is also an important factor when the consumer perceives the quality of the product or product and then results in the subsequent recognition of value. This is in line with Snoj et al. (2004) studies to design models of the relationship between quality perceptions. After analyzing the structural equations, it was found that mobile phone quality perception positively affects value perception. In addition, Alex & Thomas (2011) studies have found that product quality, service quality and contextual experiences have a significant influence on customer perceptions of value and future buying intentions.

2.3 Trust and quality awareness there is a direct influence on the perception of statistically significant risks at the .01 level, detailed as follows:

2.3.1 Trust has a direct influence on the perception of risk statistically significantly. It can be explained that once a consumer has a certain trust in a product or product, it has passed the consideration or an assessment of the risk associated with the product. When there is trust, it affects the willingness to buy. In line with Kim et al. (2007), belief is considered a mediator between risk and a consumer's buying intentions, and that consumers have a high purchasing stake when there is trust, and that trust reduces risk perception. In line with the Rachbini (2018) study, trust, risk perception, and perceived benefits directly affect purchase intentions and decisions, and trust also has a negative influence on risk perception, indicating that when there is more trust, there is a decrease in risk perception.

2.3.2 Quality perception has a direct influence on the perception of risk statistically significantly. It can be explained that quality perception is one of the factors influencing the intention to buy hydrogen drinks, quality perceptions reassure consumers when confidence occurs, trust, consumer risk perception is reduced. This is in line with Snoj et al. (2004) studies to design models of the relationship between quality perceptions. After analyzing the structural equations, it was found that the quality perception of mobile phones negatively affects the perception of risk. Beyond that, Said & Mustaking (2020) studies quality perception, sacrificial awareness, and risk perception that affects customers' perceptions of electronic product value. It was found that quality perception it affects the perception of performance risk and financial risk.

2.4 Quality perception has a direct influence on trust statistically significantly. It can be explained that a consumer's purchasing intentions are affected by the perception of the quality of a product or product, which makes the consumer aware of the benefits of a product or product. In line with Marakanon, Panjakajornsak (2017) studies quality perceptions, risk perceptions, and trust that affect customer loyalty to environmentally friendly products. It was found that quality perception directly affected trust statistically significantly. This is in line with Nilowardono et al. (2020) studying the effect of quality perception and social media marketing on brand loyalty through brand trust and brand love. It was found that quality perception has a direct influence on brand beliefs statistically significantly.

3. Consumer hydrogen beverage buying intention patterns In Bangkok, it consists of (1) information perception; Perception of information on the quality of Hydrogen beverages, in particular, are safe for their health (2) Brand trust with consumer communicates that hydrogen beverage does not pose a health risk, (3) health expectations and benefits to consumers. (Consumers' expectations for their health and benefits they receive from the hydrogen beverage) (4) And (5) comparing the price of hydrogen beverage that consumers must spend to support a purchasing decision.

Conclusion

The findings reflect the importance of factors associated with consumers' intentions to buy hydrogen beverages. In Bangkok. Therefore, hydrogen beverage business operators must be aware and focused on building trust. Quality awareness, value perception, and risk perception

to consumers in particular, the recognition of the quality of the health benefits and safety of hydrogen drinks is to encourage consumers to purchase hydrogen beverages.

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