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CONSUMER PURCHASE INTENTION ON DIETARY SUPPLEMENTS IN TELUK INTAN, PERAK

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Abstract

The consumption of dietary supplements has been increasing over the years, and it is believed to promote a healthier lifestyle among consumers. This research was undertaken to bridge the gap by establishing the factors that lead to purchase intention on dietary supplements and thus give insights into the marketers to improve health supplement production. A quantitative methodology was employed for this study, and data from 200 respondents were collected using a systematic sampling method. The data were collected through a physical survey and were analyzed using SPSS software. The findings for Pearson correlation has demonstrated that attitude ($t=.442^{**}$, $p<.001$), subjective norm ($t=.253^{**}$, $p=.001$), perceived behavioral control (PBC) ($t=.350^{**}$, $p<.001$) and health consciousness ($t=.342^{**}$, $p<.001$) have significant relationship with consumer purchase intention. The study suggested that it is incumbent upon healthcare educators and businesses to assume the responsibility of furnishing consumers with precise and reliable information about the dietary supplement products available in the market.

Keywords: Attitude, Dietary supplements, Health consciousness, Perceived behavior control, Purchase intention, Subjective norm.

Abstrak

*Pengambilan suplemen tambahan telah meningkat sejak beberapa tahun, dan ia dipercayai menggalakkan gaya hidup yang lebih sihat di kalangan pengguna. Penyelidikan ini dijalankan untuk merapatkan jurang dengan mewujudkan faktor-faktor yang membawa kepada niat membeli suplemen tambahan dan dengan itu memberi pandangan kepada pemasar untuk menambah baik pengeluaran suplemen tambahan. Metodologi kuantitatif telah digunakan untuk kajian ini, dan data daripada 200 responden telah dikumpul menggunakan kaedah persampelan sistematik. Data yang dikumpul melalui soal selidik secara bersemuka dan dianalisis menggunakan perisian SPSS. Dapatan analisis korelasi Pearson menunjukkan bahawa sikap ($r=.442^{**}$, $p<.001$), norma subjektif ($r=.253^{**}$, $p=.001$), tanggapan kawalan tingkah laku (PBC) ($r=.350^{**}$, $p<.001$) dan kesedaran kesihatan ($r=.342^{**}$, $p<.001$)*

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mempunyai hubungan yang signifikan terhadap niat membeli pengguna. Kajian ini mengesyorkan bahawa adalah menjadi tanggungjawab pendidik dan perniagaan penjagaan kesihatan untuk memikul tanggungjawab memberikan pengguna maklumat yang tepat dan boleh dipercayai tentang produk makanan tambahan yang terdapat di pasaran.

Kata kunci: Sikap, Makanan tambahan, Kawalan tanggapan tingkah laku, Kesedaran kesihatan, Niat pembelian, Norma subjektif

Introduction

In recent times, there has been a notable increase in the attention given to the significance of nutrition in promoting bodily health and fostering a healthy way of life. Consequently, individuals are becoming more inclined to incorporate dietary supplements into their customary diet to augment their overall physical and mental well-being. Dietary supplement use has increased globally as consumer confidence in these products' benefits has grown (Homer & Mukherjee, 2018). Dietary supplements, also called health supplements, comprise a vast array of products intended to improve health by supplementing the diet (Zahirudin & Zolkefli, 2019). Dietary supplements are concentrated nutrients used to prevent, alleviate, improve, or influence physiological processes in the body (Barnes et al., 2016). A dietary supplement contains one or more dietary ingredients, such as vitamins, minerals, herbs/botanicals, amino acids, metabolites, or a combination of any of these (Owens et al., 2014). Health supplements are generally consumed for personal well-being and to prevent nutrient deficiencies (Algaeed et al., 2019; Liu et al., 2018). Besides, dietary supplement use is widespread, with one study finding that 75% of people in developed countries use one or more supplements (Barnes et al., 2016).

Based on Koe's (2021) research, the dietary supplements market in Malaysia recorded a Compound Annual Growth Rate (CAGR) of 3.0 percent between 2018 and 2020, with an estimated value ranging from RM2.1 billion to RM2.2 billion. In addition, globally, herbal dietary supplement sales in the United States reached \$11.261 billion in 2020, surpassing the previous record of \$10 billion. In 2020, sales of dietary supplements, which included herbal and/or fungal elements, climbed by a record 17.3% from the previous year in 2019 (Smith et al., 2021). Moreover, the COVID-19 pandemic has generated significant apprehension among global populations (IMF, 2020), leading to numerous alternative strategies to mitigate the transmission of the virus and impede the advancement of the infection. Based on this development, Aysin and Urhan (2021) mentioned that the pandemic led to a rise in the consumption of dietary supplements in different countries.

Furthermore, research in Saudi Arabia revealed that 22.1% of respondents reported using herbal and dietary supplements to prevent infection during the pandemic

(Alyami et al., 2020). In addition, a study found that 632 Hong Kong residents, 19.3% and 25.3%, respectively, used herbal and nutritional supplements during the pandemic (Lam et al., 2021). Alyami et al. (2020) also defined these efforts as an increased focus on preventive measures to enhance immune response and minimize the likelihood of contracting the disease.

Dietary supplements are frequently questioned for their safety. The presence of chemical contaminants, pesticides, and mycotoxins in dietary supplements has been shown in the literature to cause unexpected side effects or intoxications. Furthermore, it has been reported that a large number of marketed dietary supplements have been contaminated with prohibited stimulants, novel anabolic steroids, unapproved antidepressants, and prohibited weight-loss medications (Aziz et al., 2020). Since supplements are classified as food products and not medicines, it is the responsibility of supplement manufacturers to ensure that their products are safe and that their labeling is accurate (National Institute of Health, n.d.). Despite their widespread use, there has yet to be a scientific consensus on the efficacy and safety of most dietary supplements, and contradictory scientific studies frequently appear in the literature.

Dietary supplements are now commercially available in pharmacies, health stores, supermarkets, and Internet vendors. Information on dietary supplements is widely available from various media sources, including television, radio, print, and the Internet. Still, the information could be more consistent and transparent (Lieberman et al., 2015). Consumers naturally take dietary supplements without consulting their healthcare providers (Aziz et al., 2020). Furthermore, because dietary supplements can be purchased online, consumers need to consult with a pharmacist or a physician about their choice, making health professionals unable to provide patients with consultation (Bukic et al., 2018). Consumers will receive the wrong nutrients, which can negatively impact their health.

Dietary supplements are particularly susceptible to fraud due to consumers' obsession with products promising immediate effects or results. This trend has resulted in a high consumption of unsuitable dietary supplements, which pose numerous health risks. Dietary supplement labeling could include statements regarding the supplement's effect on human body structure or function. The law requires that such claims be supported by accurate, not misleading, evidence (NPRA, n.d.). Other than that, although previous findings, particularly in Western countries, indicated sufficient information and high use of dietary supplements, information on Asian countries is limited—for example, more information about using dietary supplements in Malaysia (Zaki et al., 2018). Hence, research is required to understand health supplements among consumers. This study intends to fill in the gap in the literature on the prevalence of consumer purchase intention on dietary supplements in Teluk Intan, Perak.

Literature Review

The Theory of Planned Behaviour (TPB) (Ajzen, 1991) has been a cornerstone in consumer behavioral studies, particularly in the context of dietary supplements (Petraszko, 2013; Noor et al., 2014; Lee et al., 2016; Tan et al., 2019; Alami et al., 2019). This theory is one of the most commonly used models for understanding consumer health behavior related to dietary supplement consumption. TPB consists of three core components influencing an individual's behavioral intention: attitude, subjective norms, and perceived behavioral control. Thus, incorporating TPB into this study highlights the significance of these variables—attitude, subjective norms, and perceived behavioral control—in shaping consumers' purchase intentions and ultimately facilitating their behavior indirectly.

Asshidin et al. (2016) define purchase intention as a consumer's conscious plan or decision to buy a specific product or service, reflecting the likelihood of making a purchase based on attitudes, subjective norms, and perceived behavioral control and serving as an indicator of potential buying behavior influenced by various psychological and external factors. Certain factors or attributes influence consumers before they purchase a product, and thus, a product consumer's preferences can change regularly (Yap & Yazdanifard, 2014). Similarly, intention is a person's motivation or willingness to perform or refrain from performing any given behavior (Klama, 2013). In the Theory of Planned Behavior, intention refers to the antecedent of behaviors; that is, the intention is a predictor of behavior, indicating that if a person has a stronger intention to engage in a behavior, he is more likely to engage in that behavior (Ajzen, 1991). Furthermore, intention has been widely applied and studied by marketing researchers, who discovered that intention influences purchase behavior (Ismail & Mokhtarb, 2015).

In a study conducted by Petraszko (2013) using the Theory of Planned Behavior to predict multivitamin/mineral supplement use, attitude predicted behavioral intention to purchase multivitamin/mineral supplements. Participants with positive attitudes were more likely to report an intention to use multivitamins or mineral supplements. Positive attitudes toward purchasing functional food were influenced by positive behavioral beliefs, such as its ability to provide health advantages, reduce the impact of health-related ailments, and help improve one's health. According to Noor et al. (2014), consumers with a positive attitude about consuming dietary supplements considered that they may improve their health and have a higher intention to use them. According to TPB, an individual's attitude toward a behavior is favorable if they perceive the outcome to be positive or beneficial and highly value the consequences of the behavior. The study by Wong et al. (2021) revealed that attitude was the most crucial variable contributing to dietary supplement purchasing intention among Malaysian consumers in all categories of groups during the COVID-19 pandemic.

Subjective norms are the opinions held by individuals who influence others to perform or refrain from certain behaviors, as well as motivation accompanied by a willingness to do or not do something important (Wedayanti, 2004). According to Zhang et al. (2018), a reference group is an individual or group that can influence consumers' views and behavior toward dietary supplements. Reference groups that can influence a consumer's purchasing decisions include family, friends, and co-workers. Consumer purchasing decisions are significantly impacted by reference groups, particularly in the case of unfamiliar products or services, and they depend on information from this group to ascertain the product's intrinsic quality. (Chang et al., 2021). According to Fernandes and Panda (2019), consumers gather information from the people they know best, most of whom have previous experience with the products.

Perceived behavioral control, defined initially as the perceived ease or difficulty of performing the desired behavior (Ajzen, 1991), is a significant predictor of health-related behaviors. According to Conner and Sparks (2005), perceived behavioral control is modeled by combining a control factor's likelihood of occurrence and perceived power. Food supplements are related to the strength of an individual's belief in their ability, capturing the element of control (Krutulyte et al., 2008). Findings from the literature consistently indicate that perceived behavioral control is a significant predictor of the intention to engage in health-related behaviors, such as purchasing dietary supplement products (Petraszko, 2013; Pawlak et al., 2008; Yap, Noor, Marshall, & Liew, 2014; Zhou, Thogersen, Ruan, & Huang, 2013). However, Kitcharoen and Vongurai's (2021) research suggests that perceived behavioral control may not influence consumers' behavioral intention about dietary supplements.

Numerous studies have revealed that consumers who take dietary supplements have a substantial level of health consciousness (Royne et al., 2014). Moreover, according to Kapuge (2016), health consciousness is the primary factor of purchasing intention for health products such as dietary supplements. In a growing supplement industry, health consciousness is significant in anticipating customers' purchasing intentions (Nagaraj, 2021). In this situation, it is feasible that consumers may be more open to using the supplement if they are aware of a metabolic condition like diabetes or hypertension (Rovira, 2013). Customers' dietary supplement users tend, on average, to be better educated and have somewhat higher incomes than non-users, which may contribute to their health consciousness (Dickinson & MacKay, 2014). Kim and Chung (2011) also stated that health consciousness and awareness are the most important factors influencing consumer purchase intentions and that purchase intentions were weak when health consciousness was low.

Methodology

Population, Sampling, and Sampling Design

This research study focuses on consumers aged 18-63 in Teluk Intan, Perak. Teluk Intan is a town in Hilir Perak District, Malaysia. It is the district capital and largest town in Hilir Perak district and the third largest town in the state of Perak, with an estimated population of around 120,000 (Department of Statistics, 2020). The town is a developing district located in a suburban area. The sample of this exploratory study consisted of 200 respondents. This study utilized the probability sampling technique where respondents were selected from a target population using a random starting point and after a fixed interval (Mostafa & Ahmad, 2017). Systematic sampling was utilized in this study. The researcher selected four different focus places in the Teluk Intan town area: three shopping malls, and the other one is Menara Condong, a historical landmark in Teluk Intan. Around 50 respondents from each place were selected by the researcher to achieve the sample size of this study.

Research Instrument

The questionnaire was adopted from previous studies and adapted to this new research to obtain the needed data. A 5-point Likert scale method was used, which includes strongly disagree, disagree, neutral, agree, and strongly agree. Section A covers the demographic and characteristics of respondents, whereas Section B comprises questions regarding consumer attitude, which contains nine questions adopted from Aziz and Kamarulzaman (2020) and Noor et al. (2013). Section C consisted of three items on subjective norms adopted by Aziz and Kamarulzaman (2020). Four perceived behavioral control items were in section D, adopted from Noor et al. (2013). Next, section E comprised five health consciousness items adopted from Nabradi et al. (2020) and Noor et al. (2013). Section F on purchase intention consists of four items from Jamal (2019).

The complete questionnaire was pre-tested among 20 randomly selected consumers, resulting in a Cronbach's alpha value of more than 0.700, which satisfied the recommended value by Hair et al. (2007). The test's reliability was proved by the following values: consumer purchase intention (0.948), subjective norm (0.891), perceived behavior control (0.870), attitude (0.779), and health consciousness (0.805).

Data Analysis

The Statistical Package for Social Sciences (SPSS) was used to analyze the data, which included descriptive analyses, Pearson's correlation, and multiple linear regressions. A descriptive analysis was performed to summarise the respondents'

background for easier understanding, whereas Pearson's correlation was employed to determine the relationship between the independent variables and consumer purchase intention. Meanwhile, the most influential factor of consumer purchase intention was determined using multiple linear regression analysis.

Analysis of Findings and Discussion

Demographic Profile of Respondents

Table 1: Background of Respondents (n=200)

Respondent's Background	Frequency	Per centage (%)
Gender		
Male	86	43.5
Female	114	57.0
Age (years old)		
18-24	14	7.0
25-34	76	38.0
35-44	54	27.0
45-54	30	15.0
55-63	26	13.0
Ethnicity		
Malay	113	56.5
Chinese	73	36.5
Indian	14	7.0
Marital Status		
Single	69	34.5
Married	121	60.5
Divorced	10	5.0
Level of Education		
Secondary	76	38.0
Diploma/Certificate	77	38.5
Bachelor Degree	46	23.0
Master or PhD	1	0.5
Occupation		
Public sector	50	25.0
Private sector	104	52.0
Self-employed	18	9.0
Unemployed	12	6.0
Students	8	4.0
Retired	8	4.0

Table 1(continues)

Respondent's Background	Frequency	Per centage (%)
Information about dietary supplement		
Friends	60	30.0
Family members	27	13.5
Pharmacists	13	6.5
Internet	97	48.5
Newspaper	3	1.5

There are a total of 200 respondents, which consists of 43.0% males and 57.0% females. Most respondents were Malay, accounting for 56.5%, and were between 25 and 34 years old, with a total of 38.0%. Most of the respondents were married 121 respondents (60.5%). About 38.5% of respondents completed a pre-university program; the remaining 38% were high school graduates. Regarding occupation, most (52%) of the respondents worked in the private sector. More than half of the respondents (59.0%) earn less than RM 2500. About 48.5% of respondents chose the Internet as their medium of information about dietary supplements. Today, advertising information about the benefits of supplement consumption is extensively shared through mass and social media, which can influence consumers' purchasing intentions for dietary supplements.

Descriptive Analysis of Consumer Purchase Intention

Table 2 illustrates the mean values for all variables, ranging from 3.41 to 4.06. Accordingly, health consciousness yielded the highest mean score ($M=4.06$) with a standard deviation of 0.580, followed by perceived behavior control generating the second-highest mean score ($M=3.71$) and a standard deviation of 0.895. Then, the third score was obtained by attitude ($M=3.66$) with a standard deviation of 0.740, and finally, the lowest mean score obtained was for subjective norm ($M=3.41$) with a standard deviation of 0.895. The findings collectively revealed that the respondents viewed their health consciousness as the factor of utmost importance, wherein it would increase their intention to purchase dietary supplements.

Table 2: Mean Score of the Variables

Variable	Mean score	S. D.
Subjective norm	3.41	0.895
Attitude	3.66	0.740
Perceived behaviour control	3.71	0.895
Health consciousness	4.06	0.580

Note: Scale range 1-5

Pearson Correlation analysis

Table 2 demonstrates the results of the Pearson correlation analysis. All four independent variables have a significant and positive relationship with consumer purchase behavior.

Table 3: Pearson Correlation Coefficient Analysis

Variable	Pears r-value	p-value
Attitude	0.442**	0.000
Subjective norm	0. 253**	0.000
Perceived behaviour control	0.350**	0.000
Health consciousness	0.342**	0.000

** Correlation is significant at the 0.01 level (2-tailed).

Table 3 shows a significant correlation between attitude and consumer purchase intention, as measured by Pearson’s correlation coefficient value ($r = 0.442$), indicating a moderate and positive relationship. The result indicates that the respondent’s attitude towards the significance of dietary supplements is positively correlated with their intention to purchase such supplements. The result was consistent with previous studies, including Lee et al. (2016) and Wongsawasdi et al. (2016). However, significant positive correlations were perceived between subjective norm and consumer purchase intention ($r=0.253$). The results suggest that there was minimal correlation between the variables. Nevertheless, the findings were aligned with reports found in prior research by Chung et al. (2012), whereby subjective norms were found to positively affect the purchase intention of soy-based dietary supplements in China. Consumers are more likely to purchase dietary supplements when they are influenced by reference groups such as family, friends, and co-workers.

The result also indicated that the relationship between perceived behavioral control and consumer purchasing behavior is significant and positive. Similar findings were obtained from previous investigations into consumer-perceived behavioral control. They demonstrated consistency with the findings reported by Noor et al. (2014), where respondents indicated that they were willing to buy dietary supplements because they believed in the value of these products that would improve their health. It can be seen that there was a significant relationship between health consciousness and consumer purchasing behavior. This result was consistent with the findings of Cavite et al. (2022) and Nunes et al. (2021), which confirmed that health consciousness positively affects purchase intention. Furthermore, according to Willis and Stafford (2016), health-conscious consumers have positive attitudes toward dietary supplements, although they believe the products are expensive.

Limitations and Future Research Directions

The first limitation of the research is the small sample size of the survey, which has limited the ability to generalize the findings of this study. We conducted this study in Teluk Intan, Perak, a suburban town with a semi-developed environment, adequate facilities, and a sizable population that understands the importance of dietary supplements. However, some residents need exposure to this information or purchase these supplements. The larger the number of respondents, the more accurate the information will derive from the survey. Furthermore, the researcher uses a face-to-face questionnaire as the medium of data collection, with a short data collection period. The face-to-face data collection process necessitates significant energy, time, and financial resources. As a result, we have only received a limited number of completed questionnaires.

A similar study can be conducted with a larger sample size to improve this study. This is because a larger sample size of respondents in a study can use diverse demographic information when comparing the results. Besides, the researcher could combine qualitative and quantitative methods in conducting this research to gather more reliable and accurate information about consumer purchase intention on dietary supplements, such as interviews with the respondents and asking them questions about their perceptions of supplements products more clearly and precisely. Moreover, the research was conducted using the Theory of Planned Behaviour (TPB), which discusses the influence of attitude, subjective norm, perceived behavioral control (PBC), and health consciousness on the consumer purchase intention of dietary supplement products. In the future, researchers can explore other theories or use variables not included in this study, such as price, product quality, and brand image, to identify additional potential factors contributing to this topic or study.

Implication and Conclusion

This research was conducted to identify the relationships between consumer purchase intention of dietary supplements and several independent variables. The relationship between attitude, subjective norm, perceived behavior control, and health consciousness was explored, and there was a significant relationship between the independent variables and consumer purchase intention. All factors are critical in determining consumer purchase intentions for dietary supplements. The findings also revealed that attitude has the most significant relationship with consumer purchase intention. Consumers who possess a positive attitude are more inclined to engage in the use of dietary supplements. One factor contributing to the widespread adoption of the attitude concept in research is its critical relevance to individuals' day-to-day lives, particularly in healthcare. When analyzed within the context of this research, consumer attitudes will influence customers' purchasing and consumption decisions, providing guidance and impact on their selection of health products.

In practical terms, it is necessary to consider the managerial consequences of the findings to navigate Malaysia's changing health supplement industry. The positive correlation between attitude and purchase intention implies that companies should focus on shaping positive consumer attitudes. This could be achieved through educational marketing strategies emphasizing dietary supplements' benefits for health and well-being. Furthermore, the positive relationship between perceived behavioral control and consumer purchasing behavior indicates that when consumers believe they have more control over their decisions and the ability to purchase supplements, they are more likely to do so. Companies should make the purchasing process simpler and more accessible by providing user-friendly online platforms and subscription arrangements and making their products available at various price points and locations. In addition, the positive relationship between health consciousness and consumer purchasing behavior suggests that focusing on health-conscious consumers should be a priority. This demographic is more likely to use supplements as part of their lifestyle. Companies can target this demographic by emphasizing their supplements' health benefits, sustainability, and natural ingredients. Tailoring products to specific health needs, such as immunity boosters or mental health supplements, can also appeal to health-conscious consumers.

In conclusion, consumer education and engagement hold significant importance. Marketers can cultivate competitive marketing strategies that prioritize enhancing health awareness while ensuring consumers receive precise dietary supplement product information. Effective communication regarding the integration of supplements into a healthy lifestyle has the potential to enhance consumer confidence and encourage purchasing intentions. Dietary supplement companies need to focus on fostering trust through consistent product quality, clear communication regarding ingredients, and establishing an accessible dialogue with their customers. Ongoing consumer education and fulfilling product commitments will likely foster consumer intention to purchase or encourage repeat purchases and enhance brand loyalty.

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