

ANALYSING PRODUCT CHARACTERISTICS TOWARDS ACCEPTANCES OF
HEALTH PRODUCT IN MALAYSIA:
A CASE STUDY ON STEVIA'S BEVERAGES

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DECLARATION OF ORIGINAL WORK

“I hereby declare that this report is the result of my own, except the certain explanations and passages where every of it is cited with sources clearly.”

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DEDICATION

I would like to dedicate the appreciation to beloved family members who supported me from spiritually and financially, supervisor and panel who guided me throughout the research, friends that assisted me through the journey of research.

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ABSTRACT

Today, the increase in the prevalence of Type 2 Diabetes (T2D) has contributed significantly to the increase of public health issues such as overweight and obesity. The current level of consumer's awareness and acceptances on Stevia as a substitute of sugar plays a crucial role. Thus, this research was conducted in Malaysia to examine the consumer acceptance of technology value-added health product such as Stevia beverages and why consumer prefer Stevia as the product's characteristics really bring impact on human health and performances. The research objectives desire to analyze the product characteristics on perceived usefulness and perceived ease of use towards acceptances of Stevia's product in Malaysia. In addition, the research is classified to descriptive study to collect data by using quantitative method. The researcher had distributed survey questionnaires to 200 respondents using non-probability sampling method. The data collected was undergo data analysis by using SPSS software. The result was showed that there is a significant relationship between product's effectiveness, product's complexity, product's enjoyment and consumer's acceptances towards health product. However, product's flexibility of Stevia and health consciousness fails to achieve a significant relationship with consumer's acceptances in Malaysia yet still insignificantly impact on consumer's awareness and acceptances towards health products. Furthermore, product's effectiveness has most significant impact on consumer's acceptances. Based on the discussion on findings, this research able to explore the deeper insights through conducts further research and gain contribution to industry and consumer.

Keywords: Stevia, value-added health product, perceived usefulness, perceived ease of use, consumer's acceptances

ABSTRAK

Pada masa kini, peningkatan dalam kelaziman Diabetes Jenis 2 (T2D) telah menyumbang dengan ketara kepada peningkatan isu-isu kesihatan awam seperti berat badan berlebihan dan obesiti. Tahap kesedaran dan penerimaan pengguna terhadap Stevia sebagai pengganti gula memainkan peranan penting. Oleh itu, kajian ini telah dijalankan di Malaysia untuk menguji penerimaan pengguna terhadap produk kesihatan nilai tambah teknologi seperti minuman Stevia dan mengapa pengguna lebih suka Stevia kerana ciri-ciri produk tersebut telah benar membawa kesan kepada kesihatan manusia dan prestasi. Objektif kajian berhasrat untuk menganalisis ciri-ciri produk dengan faktor merasakan kesenangan ketika menggunakannya, dan merasakan kebergunaannya terhadap penerimaan produk Stevia di Malaysia. Di samping itu, kajian ini dikelaskan kepada kajian deskriptif untuk mengumpul data dengan menggunakan kaedah kuantitatif. Pengkaji telah mengedarkan borang soal selidik kepada 200 responden menggunakan kaedah persampelan bukan kebarangkalian. Data yang dikumpul telah menjalani analisis data dengan menggunakan perisian SPSS. Hasilnya telah menunjukkan bahawa terdapat hubungan yang signifikan antara keberkesanan produk, kerumitan produk, keseronokan produk dan penerimaan pengguna terhadap produk kesihatan. Walau bagaimanapun, fleksibiliti produk Stevia dan kesedaran kesihatan pengguna gagal untuk mencapai hubungan yang signifikan dengan penerimaan pengguna di Malaysia namun tetap wujudnya kesan yang tidak ketara terhadap kesedaran dan penerimaan pengguna terhadap produk kesihatan. Selain itu, keberkesanan produk mempunyai kesan paling ketara terhadap penerimaan pengguna. Berdasarkan perbincangan, kajian ini dapat meneroka pandangan yang lebih mendalam melalui menjalankan penyelidikan lanjutan dan memberi sumbangan kepada industri dan pengguna.

Kata kunci: Stevia, faktor merasakan kesenangan ketika menggunakannya, dan merasakan kebergunaannya, penerimaan pengguna

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LIST OF ABBREVIATIONS

UTeM	Universiti Teknikal Malaysia Melaka
TAM	Technology Acceptances Model
PU	Perceived Usefulness
PEOU	Perceived Ease of Use
SPSS	Statistical Package for Social Science
ANOVA	Analysis of Variance

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CHAPTER 1

INTRODUCTION

1.1 Background of Study

Today, the increase of chronic diseases such as diabetes has become a serious public health issue in Malaysia. Refer (Mansor and Harun, 2014), the major cause of the illness is due to unhealthy lifestyle, such as work stress, and unhealthy eating habits. This unhealthy eating habit lead to several health issues such as coronary diseases, diabetes, cancer and else. Unhealthy eating habit not only refer to the consumption of high calories food which include fats, “fast” foods which are low in fibre and vitamins, foods high in salt and sugar.

It is common known that human prefer sweet taste over the other basic flavours, even though the changing of age, sweet taste is still one of the most desired flavours for human preference compared to sour and bitterness (Kim et al., 2017). According to (Carocho et al., 2017), the high consumption of sugar is known to have negative side effects in humans, and thus, sweeteners appeared back in the 1800’s to reduce its intake. Based on the previous research, it can be shown that people likes to eat sweet foods and the consumption of excessive sugar may occurs several health concerns such as diabetes and obesity. This problem also occurs in Malaysia which mostly Malaysian have obesity and diabetes problems.

Healthy eating is a plan in the long-term especially for people with diabetes is not much different than any other person. But although many people have an idea of what healthy eating is, but they struggle to making it a part of their regular routine. They think that “say no” to sugar really can kills them and they must cook and be prepare themselves if want to eat healthier. This act kinds of burdensome for people who has busy working life. Therefore, many people tend to follow and buy the “natural” products as they are seeking for more healthier life style. It became a new market trends not only in Malaysia but also other countries as many company start new product development that use natural value-added ingredients that without any negative side effects.

The technology acceptance model (TAM) is probably the most widely used among theories that show how consumers come to accept and use a technology innovation, which expecting motivational factors for the implementation of innovative technology (Davis et al., 1989). The model used TAM can be based on the idea that an individual’s perceptions impacts on his/her attitude towards technology. In this study, TAM described the relationships between the perceived usefulness and perceived ease of use towards the acceptances of health product based on Stevia’s products. As stated by others researcher, foods and drinks are not proposed to only satisfy hunger and necessary nutrients for humans but also to avoid diseases and improve physical and mental well-being of the consumers. Hence, the perceived usefulness can be considered as a practical and innovative approach to promote the state of improving the human performances and reducing the risk of disease.

Stevia normally known as a type of natural sweetener derived from the leaves of the Stevia rebaudiana Bertoni plants that primarily grow throughout North and South America. Stevia is a value-added product that changing from a plant to a natural sweetener. The model shows that the willingness of consumers to try will determine the use of technology. In the model used (TAM) have state that perceived usefulness refers to individual believes the use of a specific technology will improve his/her performance while perceived ease of use perceives that the technology is easier and more comfortable to use. Hence, the theory of TAM is applied into this research to identify the consumers’ acceptances towards the health product that use innovation such as Stevia sweetener which can be used as ingredients in drinks at Malaysia.

The need of product to provide the product characteristics that consumer's preferable has been complemented with a need for asking how the product makes people feel. Meiselman (2016) defines the focus on healthy products which are not only healthy from a biological perspective but also makes people "feeling good" in their health and get some improvement on the daily performances. The important of "feeling good" for consumers will increase the acceptances towards the health products such as Stevia sweetener.

Stevia leaves have been shown to exert antioxidant and antimicrobial activity and could be a useful tool to ensure safety and quality of food products (Ramya et al., 2014). Stevia used as a sweetener and a sugar substitute because it has about 300 times the sweetness of sugar yet without the calories. Stevia are approved for use as sugar and food additives by the U.S. Food and Drug Administration, and as common ingredients in soft drinks and other beverages.

Sucrose normally is the main sweetener used in human diets which consists for a high percentage of the daily energy intake. But now, consumers have another better alternative such as Stevia sweetener that consists zero-caloric can be reduced the energy intake and help to prevent the negative health consequences associated with excess eating. Besides, consumers tend to prefer Stevia in Malaysia due to its naturalness compared to synthetic sweeteners in Malaysia. It is because natural products usually without any harmful chemicals, eco-friendly, and there are less likely occurs negative side effect.

Malaysia had to import 98.6% or 1.2 million metric tons of raw sugar from countries such as Brazil and India due to the cultivation of sugarcane in Malaysia covered approximately 2,102 hectares (Kamarulzaman et al,2014). This shows that sugar consumption in Malaysia are consists of high demand. There are several merits that can make people choose Stevia in Malaysia. Stevia is 100% natural sweetener can help reduce intake of sugar, yet it is also suitable for sugar-sensitive people, such as diabetics. Stevia that act as substitutes to sugars can help consumers to maintain the healthy life and reduced weight especially for Malaysian that having obesity and diabetes health problems. Stevia Sugar Coporation (M) Sdn. Bhd in Malaysia, also state that their products are very suitable for diabetics, vegetarians, weight-conscious

consumers and sugar-prone patients. As example, some brands of soft drinks and sports drinks contain Stevia sweeteners to reduce the number of calories in these beverages. In additions, Stevia encourages weight loss by providing a low-calorie option to satisfy sugar cravings. However, stevia's safety and potential side effects have generated argument but there are no major adverse reactions to Stevia have been reported.

The technology value-added product in the market such as Stevia sweetener that use as additive in food and drinks are slowly accepted by consumer. This can be stated that the new product innovation that transform Stevia' plant to a healthy and zero-caloric sweetener is successful. In Malaysia, Stevia has developed its own beverages such as Dr Sweet Tea which is a unique taste of herbal tea contains Stebiana Stevia that can manage calories intake. Its promote 100% natural ingredients and contains organic herbs, most importantly is "halal" drinks. "Halal" refer to does not contain anything which is impure according to Shariah law and Fatwa. Mostly consumers in Malaysia are Muslim so that the Stevia beverages should be "halal" as everyone in Malaysia can consume it.

Followers of stevia claim it to be a healthier option than sugar because it contains no calories, but it may also pose some risks for certain people. In addition, Stevia's product is inexpensive which is affordable for mostly consumer as daily consumption usages. Thus, it has the large potential market in Malaysia to be widely used and can assist consumers in modifiable their weight and blood sugar level as it is very suitable for consumers who have diabetes problems. The perceived usefulness towards Stevia can be refer to the characteristics of Stevia are really improved the human health and performances such as lower the consumer blood sugar level and the risk of have diabetes. Therefore, Stevia's product must have the criteria that can help improved the human health and performances so that can improve consumer acceptances, satisfaction and repurchase the products.

1.2 Problem Statement

Nowadays, there are many companies of health products in the Malaysia that provide plant-based products such as Bio-Pharmaceuticals Sdn Bhd, Hovid Berhad, Y.S.P. Industries (M) Sdn Bhd and else. However, this study was focus on Stevia' s product in Malaysia which Stevia Sugar Corporation (M) Sdn. Bhd. that use Stevia plant as the natural and zero-caloric sweetener. It's can be used in almost all kind of foods and medicines as an ingredient. It is a sweetener with high sweetness content, and Stevia is 200 times to 400 times sweeter compared with cane sugar. (JL Stevia,2010.) The characteristics of Stevia may affect the acceptance of people towards the innovation of value-added health products.

Firstly, high sugar consumption among Malaysians is one of the contributing factors to the high rate of diabetes. Type 2 Diabetes (T2D) has contributed significantly to the increase of health issues such as overweight and obesity. The overall abdominal obesity in Malaysia, measured by waist circumference, has been reported between 55.6% and 57.4% (Hussein. Z et al., 2015). According to (Koo HC. et al., 2013), patients with diabetes receiving treatment in hospital reported the percentage of total calories from carbohydrate intake to be 60%, fat intake 24%, and from protein intake 16%. These findings conclude that Malaysians with diabetes tend to consume over consumption on sugar, carbohydrate and fat.

Furthermore, the current level of awareness and acceptances on Stevia market in Malaysia plays a crucial role in this study. The parallel trends of increased consumer awareness towards healthy eating lifestyle and the increasing rates of obesity have encourages food companies to reformulate their existing food products and market them as healthier alternatives (de-Magistris & Gracia, 2014). Since Stevia is a new product in Malaysia, the level of consumer's awareness on it has effect on the market are still unpredictable. With the increasing prevalence of diseases related to sugar consumption, sweeteners are now general in foodstuffs, and are highly researched for their impact on sweetening potentials, on health, on the economy and in social studies (Mooradian et al., 2017). The consumption of convenience food or "fast food" brings a lots of side effect to human health and performances. Although they know the effect

and have the awareness to avoid the unhealthy foods, but they hard to make the changes in short-term. Therefore, they try to seek the alternatives that can help to reduce the excessive saturated sugar intake. Hence, the acceptance of consumer towards Stevia products in the market are still to be observed.

The consumers in Malaysia are not fully adapt to the health product in the market although they have the awareness. A mismatch between expectations raised by the actual features of the product and services would lead to positive or negative disconfirmation, depending if the product is better or worse than expected. The first impression and experience when using the health product such as Stevia are important to pursue consumer repurchase. It is because consumer don't really will purchase new or unknown products in the market without questioned it.

The willingness of consumer to buy Stevia beverages may base on several factors such as taste, price, services and quality of the product and services that will impact on human health or performances. On the other hand, some consumers compare that health and organic products that are cost more compared to normal sweetener. The purchasing intention of consumer can reflect the demand in the market. The product characteristics of Stevia on perceived usefulness and perceived ease of use which effectiveness, flexibility, complexity and enjoyment of Stevia on consumer experiences and view are necessary to be identify as it can help to improve the product development and innovative technology innovation. For example, there are some soft drinks company promote the zero sugar drinks as they said that the taste of the drinks is not affected due to the changes of the ingredients. But the consumer will not easily buy the Stevia's product due to safety concerns. The impact of Stevia need to identify more as characteristics of Stevia that meet customers' need are really improve the human performances.