Consumer Perceptions on Plant Purchasing Amid Covid-19 Pandemic in Kelantan

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DECLARATION

I hereby declare that the work embodied in this report is the result of the original research except the excerpts and summaries that I have made clear of the sources.

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ABSTRACT

The Covid-19 pandemic has resulted consumers on having their own plants at home. This pandemic also altered their shopping behaviour on purchase the plants due to stay at home orders. This study aims based on three objectives, to determine and rank the consumer perceptions on plant purchasing amid Covid-19 pandemic in Kelantan, to measure and rank the consumer perceptions on plant purchasing amid Covid-19 pandemic towards the factors of attitude, subjective norm, and perceived behaviour control, and to analyze the relationships between attitude, subjective norm, and perceived behaviour control among consumer on plant purchasing amid Covid-19 pandemic in Kelantan. This study was conducted on 200 respondents of consumers from Kelantan area. Next, by using the Theory of Planned Behavior (TPB), this study applied a purposive sampling strategy through a questionnaire disseminated among Kelantan consumers. A statistical analysis was done using SPSS and EXCEL packages. The Relative Importance Index (RII) was used to investigate the consumer perceptions on plant purchasing amid Covid-19 pandemic and determine the most significant factors affecting consumer perceptions on plant purchasing amid Covid-19 pandemic. From the study, findings show the questions of the consumer perceptions were given very high effect ranked. The survey results revealed that the highest consumer perceptions on plant purchasing regarding RII% values respectively namely attitude (81.36%), perceived behaviour control (79.41%), and subjective norm (78.53%). Besides, it also shows a significant relationship between attitude, subjective norm, and perceived behaviour control among consumer perceptions on plant purchasing amid Covid-19 pandemic in Kelantan. Based upon these findings, this can help consumers on purchase plants.

Keywords: Covid-19 pandemic, Consumer Perception, Purchasing, Theory of Planned Behaviour, Plants

Persepsi Pengguna terhadap Pembelian Tumbuhan Di Tengah-Tengah Pandemik Covid-19 di Kelantan.

ABSTRAK

Pandemik Covid-19 telah menyebabkan pengguna mempunyai tanaman sendiri di rumah. Pandemik ini juga mengubah tingkah laku membeli-belah mereka untuk membeli tumbuhan kerana arahan tinggal di rumah. Kajian ini bertujuan berdasarkan tiga objektif, untuk menentukan dan menilai persepsi pengguna terhadap pembelian loji di tengah-tengah pandemik Covid-19 di Kelantan, untuk mengukur dan menilai persepsi pengguna terhadap pembelian tumbuhan di tengah pandemik Covid-19 terhadap faktor sikap, norma subjektif, dan kawalan tingkah laku persepsi, dan menganalisis hubungan antara sikap, norma subjektif, dan kawalan tingkah laku persepsi dalam kalangan pengguna terhadap pembelian tumbuhan di tengah-tengah pandemik Covid-19 di Kelantan. Kajian ini dijalankan terhadap 200 orang responden pengguna dari kawasan Kelantan. Seterusnya, dengan menggunakan Teori Tingkah Laku Terancang (TPB), kajian ini menggunakan strategi persampelan bertujuan melalui soal selidik yang disebarkan dalam kalangan pengguna di Kelantan. Analisis statistik telah dilakukan menggunakan pakej SPSS dan EXCEL. Indeks Kepentingan Relatif (RII) digunakan untuk menyiasat persepsi pengguna terhadap pembelian tumbuhan di tengah-tengah pandemik Covid-19 dan menentukan faktor paling ketara yang mempengaruhi persepsi pengguna terhadap pembelian tumbuhan di tengah pandemik Covid-19. Daripada kajian, dapatan menunjukkan persoalan persepsi pengguna diberi peringkat kesan yang sangat tinggi. Hasil tinjauan menunjukkan bahawa persepsi pengguna tertinggi terhadap pembelian tumbuhan berkenaan nilai RII% masing-masing iaitu sikap (81.36%), kawalan tingkah laku (79.41%), dan norma subjektif (78.53%). Selain itu, ia juga menunjukkan terdapat hubungan yang signifikan antara sikap, norma subjektif, dan persepsi kawalan tingkah laku dalam kalangan persepsi pengguna terhadap pembelian tumbuhan di tengah-tengah pandemik Covid-19 di Kelantan. Berdasarkan penemuan ini, ini boleh membantu pengguna membeli tumbuhan.

Kata kunci: Pandemik Covid-19, Persepsi Pengguna, Pembelian, Teori Tingkah Laku Terancang, Tumbuhan

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ADD	Attention Deficit Disorder
AE	Average Effect
HE	High Effect
JEH	Journal of Environmental Horticulture
LE	Little Effect
MCO	Movement Control Order
PBC	Perceived Behaviour Control
RII	Relative Importance Index
SD	Standard Deviation
SE	Some Effect
SOP	Standard Operation Procedure
SPSS	Statistical Package for Social Science Software
TPB	Theory of Planned Behaviour
VHE	Very High Effect
&	And
A	Cronbach's Alpha
N	Population Size
S	Sample Size
%	Percentage
r_s	Spearman Correlation Coefficient

CHAPTER 1

INTRODUCTION

1.1 Research Background

Growing plants at home can play a significant role in well-being, and many people use their leisure time to relax and enjoy the beautiful landscapes. Furthermore, the global health crisis caused by the Coronavirus pandemic has resulted in imposed lockdown in many nations (Tobias, 2020). As a result of the unprecedented scenario, many people have purchased plants for their homes. This is due to the fact that they had to stay at home for several weeks without being able to go about freely. Even though house restriction has been shown to be an important factor in regulating the spread of the virus, it has also contributed in to the emergence of unintended consequences such as a reduction in consumer spending and the cause of psychological impacts associated with the mandatory home extreme isolation (Shigemura et al., 2020).

Additionally, having a property with an outdoor space, such as a balcony or a green area, proved beneficial throughout the period of seclusion (Bezerra et al., 2020). The Coronavirus pandemic has altered how consumers buy for various reasons, including some customers placing stay-at-home orders, and changes to how businesses can market their products side-by-side and online (Campbell et al., 2021). Mostly with an impending pandemic, many people were purchasing plants from a wide range of categories. Some people, for example, purchase flowering tree varieties, vegetable

seedlings, ornamental trees, herbaceous plants, and other items. In fact, some believe that purchasing these trees can enhance their health, the environment, and their consumer satisfaction.

Consumer purchase starts with their intentions and impressions. In other words, buying behaviour kicks off the decision-making process that a consumer must go through before making a purchase. Due to the sheer Covid-19 epidemic, they will prioritise the essential variables before obtaining the desired plant based on their current situation. Previous studies on plant purchases revealed that having a guarantee of the plant's health, price rebates, and visible, strategic marketing all influence buy intention (Behe & Fry, 2019; Knuth et al., 2020).

1.2 Problem Statements

Nowadays, with the Covid-19 pandemic problem widespread, there is a lack of concerns relating to actual consumer purchases in the field of marketing academically. Furthermore, the actual purchase is considered complex, and the elements influencing purchasing behaviour are still little understood (Ismail, 2016). As previously stated, purchasing behaviour is a complex subject in which there are behavioural variances in attitudes, preferences, desires, and decisions in choosing products or services (Chiang et al., 2010; Shafiq et al., 2011; Tsai et al., 2010).

Besides, product purchases are dropping due to the Covid-19 outbreak, as some consumers are unable to acquire the crops they desire. This is because today's pandemic led some people to stop working. M Saravanan, the Minister of Human Resources, also

stated in a parliamentary session that 155,893 people lost their jobs due to the Covid-19 pandemic (Malaysiakini, 2021).

Furthermore, complications such as damage are possible. Online purchases, for example, can frequently cause damage to these plants during excessively long delivery times (Fedele, 2021). In addition, when purchasing plants online, the plants may differ from the photographs on the website. Consumers may feel misled when the plant they receive upon delivery differs from what they expected based on the product images on the website. As a result, this could be a disappointment, especially if they already have a location or pot planned for the plant (Carmela, 2020).

1.3 Hypothesis of the Study

H_0: There is no significant value between the consumer perceptions on plant purchasing amid Covid-19 pandemic in Kelantan.

H_1: There is a significant value between the consumer perceptions on plant purchasing amid Covid-19 pandemic in Kelantan.

H_0: There is no significant relationship between attitude, subjective norms and perceived behaviour control among consumers on plant purchasing amid covid-19 pandemic in Kelantan.

$H_{1:}$ There is a significant relationship between attitude, subjective norms and perceived behaviour control among consumers on plant purchasing amid covid-19 pandemic in Kelantan.

1.4 Research Question

1. What are the consumer perceptions on plant purchasing amid covid-19 pandemic in Kelantan?

2. What are the significant relationships of attitude, subjective norm, and perceived behavior control among consumers on plant purchasing amid covid-19 pandemic in Kelantan?

1.5 Objective of Study

1. To determine and rank the consumer perceptions on plant purchasing amid covid-19 pandemic in Kelantan.
2. To measure and rank the consumer perceptions on plant purchasing amid Covid-19 pandemic towards the factors of attitude, subjective norm, and perceived behaviour control.
3. To analyze the relationships between attitude, subjective norm, and perceived behaviour control among consumers on plant purchasing amid covid-19 pandemic in Kelantan.

1.6 Scope of Study

This study uses purposive sampling methods and focuses on consumer perceptions of plant purchasing amid Covid-19 pandemic in Kelantan. Consumers who seem to be interested in purchasing plants were given a survey questionnaire. The survey was distributed to 20 to more than 49 years old consumers. Using purposive sampling methods, this study focuses on consumer perceptions of plant purchasing during the Covid-19 pandemic in Kelantan. Consumers who are interested in purchasing plants were given a survey questionnaire. The survey was distributed to consumers aged 20 to more than 49 years old.

The Theory of Planned Behaviour (TPB) was then applied, with independent and dependent variables. The independent variables in this study are attitude, subjective norm, and perceived behaviour control, while the dependent variables are consumer perceptions on plant purchasing amid covid-19 pandemic in Kelantan.

1.7 Significance of Study

The findings of this study have a good effect on consumers, particularly plant purchasers. For starters, even during the Covid-19 pandemic, purchasing plants can entice more people to do so. There is a big demand for buying plants nowadays, especially from nurseries, and some people are eager to acquire plants even if the price offered is beyond their capabilities. Furthermore, the government provides these

consumers with the option to purchase plants by hosting agricultural-related events, making it easier for them to go and purchase the plants they desire.

1.8 Organization of Study

Chapter 1: This chapter describes the study of research background, problem statements, hypothesis of the study, research questions, objectives, scope of the study, and significance of the study.

Chapter 2: This chapter provides the literature review from the previous research on the consumer perception on plant purchasing amid Covid-19 pandemic. In addition, based on the understanding of this study, this section includes related information.

Chapter 3: This chapter presents the theoretical framework and methodology used, including research design, sampling techniques, and data analysis.

Chapter 4: This chapter explains the results from the data analysis which includes the analysis from consumer perceptions on plant purchasing amid Covid-19 pandemic, statistical test and summary.

Chapter 5: This chapter focuses on summarizing the study's findings, implementation, and contribution, as well as its conclusion and recommendations for future research.

CHAPTER 2

LITERATURE REVIEW

2.1 Concept of Consumer Perceptions

The consumer's general perspective, thought, understanding, and feelings about an organization and its product and services are referred to as customer perception. Consumer perception is another name for customer perception. Consumer perception is the process whereby a customer picks, organizes, and analyses detailed inputs to develop a meaningful picture of a product or brand over time. When we evaluate a scenario or circumstances, we are in prepared to respond (Kotler, 1997).

Consumer perception was crucial in many areas, including customer comprehension, communications and advertising, purchasing decisions, loyalty, the level to which they promote a brand, and, perhaps most importantly, engagement activities. Thus, perception is extremely subjective among people, consumers' perception requirements, such as quality factors, are influenced by a variety of characteristics such as age, income, education level, living environment, personal attributes, and product knowledge or service, as well as the organisation itself (Kotler and Armstrong, 2011). Besides, perceptions are defined as a strategic concept that includes a consumer's opinion, understanding, or awareness about a firm or its services, according to Business dictionary (2018).

Therefore, understanding the perceptions process is fundamental for the consumer or maker. It is because the attribute that a productive marketer is capable of giving or contribute to the product through marketing, packaging, factory production, home country, and other advertising strategies that evaluate quality of the product would then influence consumers' decision to buy a product to a huge extent (Agyekum et al., 2015). Consequently, this concept is employed in this thesis to study consumers' perceptions of their subjective thoughts toward plant purchasing in the midst of the Covid-19 pandemic in Kelantan.

2.2 Covid-19 Pandemic

On December 31, 2019, the first instances of infection with a novel coronavirus (2019-nCoV) were reported in Wuhan, China (WHO, 2020), resulting in the disease known as Covid-19 (Wang et al., 2020), which is distinct from SARS-CoV and MERS-CoV. Covid-19 is a respiratory infection that is conveyed mostly by droplets in the air. When an infected individual coughs or sneezes, these droplets are usually evacuated. Once symptoms appear, they become less infectious, and a person's virus load gradually decreases. However, infected people continue to shed the virus in their saliva and faces for around 2 weeks after recovering from Covid-19. Infected people who have no or very moderate symptoms might have a very high viral load in their upper respiratory tracts. They can spread the infection by spitting, touching their lips or noses, or even chatting. SARS-CoV-2 has also been observed to survive on surfaces for days (Burki, 2020).

In Malaysia, Covid-19 was discovered on 25 January 2020, among three Chinese individuals who had entered the country from Singapore on 23 January 2020 (Pung et al., 2020). Then, the first local Covid-19 infection was discovered on February 4, 2020, and the number of affected people stayed under 25 until March 1, when the number of infections increases to 29 (Ministry of Health Malaysia, 2020). With the protracted Covid-19 pandemic, Malaysia has taken precautionary measures to prevent the virus from spreading more widely. Malaysia took an approach by conducting social quarantine, the limitation of admission of certain foreign nationals into Malaysia, and concluded with the passage and implementation of the Movement Control Order (MCO) which announced by the Prime Minister (Prime Minister's Office Malaysia, 2020). From the first MCO, Malaysia had passes the first phase and it shows awareness to the people to always take care due to standard operating procedures (SOP) that the government has set.

In order to combat the global spread of COVID-19, vaccination would be the most effective method of acquiring herd immunity to the virus. Malaysia is not an exception in its request for collaboration with other vaccine producing countries to create the Covid-19 vaccine. It is willing to share its facilities, data, and resources in this attempt. On February 24, Malaysian Prime Minister Tan Sri Muhyiddin Yassin officially launched the first Covid-19 vaccination. Tan Sri Muhyiddin got the first of two doses of the Pfizer-BioNTech vaccine at a public facility in Putrajaya, Malaysia's administrative capital. Nowadays, Malaysia has achieved 78% fully vaccinated, 79% at least 1 dose and 8.3% booster given (Mathieu et al., 2021) as shown in figure 2.1. As a result, using this vaccine has the potential to revitalise the economy by reviving small farmers' and large companies' businesses. As a result of the resurgence of this industry, many consumers who are interested in agriculture began to purchase and have plants at home to fulfill their goals.

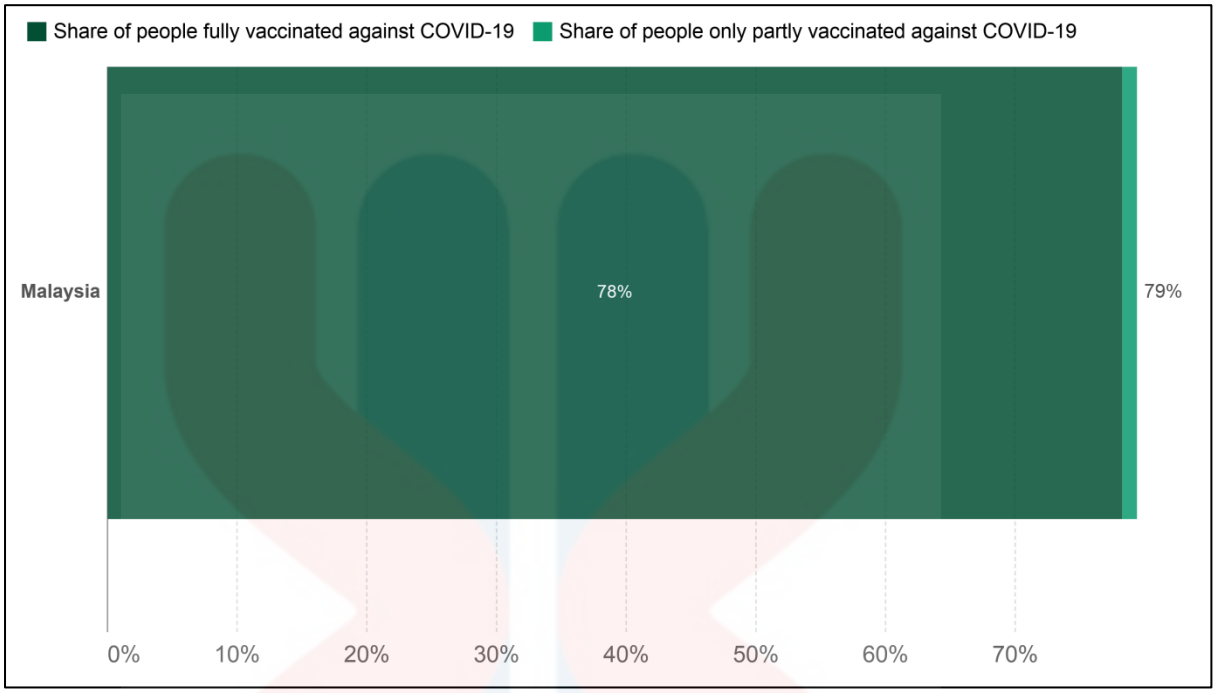

Figure 2.1: Data of a full vaccination, having partially dose and fully vaccinated
Source: Official data collected by Our World in Data 2022

2.3 Benefits of Having Plants at Home

Plants play a significant part in ecosystems by delivering critical services. Plants produce a wide range of human-use goods, including firewood, timber, textiles, pharmaceuticals, colours, insecticides, oils, and rubber. Humans and other living organisms cannot exist in the way that they should without plants (Jamshidi-Kia et al., 2018). Hall and Dickson (2011) published a forum article in the Journal of Environmental Horticulture (JEH) that outlined the socioeconomic, environmental, and healthcare and well-being advantages of people-plant relationships. So, during a Covid-19 pandemic, plants create special companions because they provide numerous social, emotional, and overall health advantages, despite the fact that plants either reduce or

spread Covid-19. Home gardening flourished worldwide during the current disease outbreak (Timmins, 2020; Walljasper & Polansek, 2020). As quarantines became far more common, there was a surge in cross-country involvement in tree planting (Lin et al., 2021).

Research shows that maintaining plants at home considerably improves people's health in the context of recent COVID-19 lockdowns (Dzhambov et al. 2021; Perez-Urrestarazu et al. 2021). Besides, the intentions for home growing during the pandemic can be influenced by a wide range of factors. Recently, it was reported that homeowners did so to combat food crisis, decrease the occurrence of purchases, or avoid walking to the retail shop entirely, even if gardening at home established to be only "subordinate" (Russell, 2020; Thilmany McFadden & Malone, 2020).

2.3.1 Plant as Medicinal Properties

Numerous plants and trees offer essential therapeutic capabilities, one of their most obvious advantages. However, there has recently been a significant report in the literature on study work on medicinal plants and their ingredients in illness prevention. Most countries have used medicinal plants for healing from ancient times and continue to do so now (Fatemeh et al., 2018).

Natural herbal treatments are straightforward and holistic approaches to treating common illnesses and ailments. For example, the present pandemic causes dread in public, which seeks methods to avoid or reduce disease symptoms. Because they believe the only resource available to them is self-help, self-care, and self-mediation (Matias et al., 2020). As a result, it has been observed that some people turn to self-medication

(Quispe-Caari et al., 2021) and others to the usage of medicinal plants (Lim et al., 2021) as a potential preventative.

Traditional Chinese herbal treatment is founded instead on a diverse flora to treat the entire body to restore balance and harmony between the five elements of fire, wood, earth, metal, and water (Watson, 1994). So, by producing plants, we may expand our knowledge of the natural world while also arming ourselves with stronger defences against sickness and infection.

2.3.2 Benefits in Generate Happiness

Owning flowers around the house enhances people's choices and lowers their chances of developing anxiety depression. Flowers and ornamental plants boost positive energy levels and make people feel safe and comfortable. This is due to the fact that natural aesthetic attractiveness can soothe people. According to Hall and Dickson (2011), natural aesthetic magnificence is relaxing people and settings with flowers are an excellent approach to reduce tension and anxiety. In any scenario, incorporating natural and living materials, including such plants, can bring nature into humans housing and reconcile humans with the natural surroundings. This usually attached has been shown to encourage better value changes in thinking and emotions and positively impact occupational stress, wellness, and so well (Grinde & Patil, 2009).

Besides, consumers who have plants in their homes report feeling happier, less anxious, and calmer. They are less likely to suffer from stress-related depression as a result of the positive energy they receive from their surroundings. For instance, natural herbs can increase memory retention by up to 20% while energizing emotions, mental

cognition, and performance (Hall & Dickson, 2011). On the other hand, adding flowers to their house or workplace reduces mental stress. It provides them feel more comfortable, protected, and happy. As a result, plants like flowers can help them acquire a more optimistic attitude on life by providing visually pleasing excitement and enhancing their felt happiness. Beauty of nature predicts sustainability attitudes and behaviours similarly to other environmental perspective measures, but it is unique in determining degrees of happiness (Zelenski & Nisbet 2014).

2.3.3 Give Learning Capabilities

Being exposed to natural environments allows children with Attention Deficit Disorder (ADD) remember, concentrate, and interact more with their surroundings (Emma, 2019). Having plants in a learning environment for children can improve their learning capacities by concentrating and focus. This boosts their capability to learn and makes it easier for them to absorb and remember information. According to Hart (1999), study in schools has discovered that plants enhance the classroom aesthetically, supply oxygen, and absorbed pollutants. For example, ornamental plants promote a healthy learning environment for children in minimizing proclivity for distraction and assisting them in better concentrating on homework.

Furthermore, for children who have difficulty paying attention, introducing plants to the classroom can significantly positively impact how they learn. Learning in a natural environment, for example, can assist children with ADD engage more in the classroom, enhancing their focus and concentration on the work at hand. Research of university students discovered that individuals who had plants present while

examination recovered faster from stress (Russell & Uzzell, 1999). Natural aesthetic beauty's relaxing effects aid to reduce the distractions that might otherwise occupy their minds. Plants can help children learn better by changing the environment in which they learn.

2.4 Habits of Plant Purchasing

With the current health crisis, customers are becoming more interested in home gardens because they can cultivate plants at home. As a result, most of these consumers demand plants for their homes as a habit. Indeed, consumer demand for plants has risen, especially the varieties of flowering houseplants that have been on the rise since 2015 (Cohen, 2018). For example, most consumers of all ages enjoy purchasing flowering plants and houseplants. They purchase on the spur of the moment to find relief. Consumers also say that perhaps the colours of plants and flowers help them develop or express their moods and appreciate their uniqueness (PMA, 2016; Yue et al., 2016).

Furthermore, consumers enjoy purchasing plants such as fresh flowers for indoors houseplants and other purposes. According to the research, consumers start buying plants for themself initially and then move on to purchasing plants for others as souvenirs (Huang, 2005; IPSOS, 2016). Thus according to recent statistics, 73 percent of consumers buy flowers for themselves at stores because of the regularly promoted low rates. Women are now more inclined than males to buy cut flowers for themselves (Palma & Ward, 2010).

2.5 Plant Purchasing Method

When consumers purchase products, they go through four crucial cognitive procedures: recognising a concern or need, gathering information, weighing possibilities, and selecting a solution (Vinerean, 2013). In a nutshell, when purchasing plants, buyers consider many aspects. The pricing of the plant acquired, the plant's maintenance cost, sufficient lighting, the size of the plant to fit the space, and the consistent flow of water are all aspects to consider. According to Grewal et al. (1998), their perspectives of brand quality, individual inherent corresponding values, and discount offers influenced consumers' tendency to purchase through the perception of the product.

It is critical to choose a high-quality product. For example, plants that are strong, clean, shapely, well-potted, and also have dense, healthy foliage should be sought after by consumers. Hence, plants with yellow or mottling leaves, burned leaf margins, water-soaked or wilted foliage, spots or blotches, and rank, wiry growth should be avoided (Lineberger, 2021). Plants that were manually injured somehow, have fallen lower leaves, or appeared wilting should also be avoided. Flowering plants with only half to three-quarters of their flowers fully open will prolong the blooming season for optimal satisfaction.

2.6 Impact of Covid-19 Pandemic on Plant Purchasing

The Covid-19 pandemic has altered the global in a variety of ways, including improved quality of life, sociopolitical, environmental, and economic sustainability (Keshky et al., 2020). Numerous societies have changed their lifestyles due to the Covid-19 pandemic by engaging in beneficial activities. Some individuals, for example, attempt to start a business by selling food, products, plants and so forth. Some of us also want to buy plants to fill their spare time by decorating the house and room. As a result of their determination to decorate the home, some groups of both men and women try to fill their free time by purchasing plants. Surprisingly, consumer interest in gardening and landscaping has increased during stay-at-home orders, owing to perceptions of these activities as healthy hobbies (Conway, 2016; Soga et al., 2017).

Living in an environment with little or no plant intake can result in negative behaviours like irritation or aggression (Lederbogen et al., 2011). Exposure to plants, both visually and physically, has been associated with increases in positive behaviours and comfortable feelings, and a decrease in negative emotions such as anger, anxiety, and stress (Adachi et al., 2000; Kamitsis & Francis, 2013). This behaviour is most likely related to the COVID-19 pandemic, which is exacerbated by other unpleasant feelings such as anxiety, frustration, ambiguity, filth, and stress (Brooks et al., 2020).

As a result, it is obvious that the presence of houseplants is connected with a reduction in sensations of pain, fear, sadness, and hostility. It is worth noting that Han and Ruan (2019) evaluated 50 researches have proven that the influence of houseplants on human behaviour is most important in their potential to grow happy emotions and lessen negative sensations

2.7 Theoretical Framework

A theoretical framework is made up of theories demonstrated by experts in the field into which you intend to conduct research, which you will use as a theoretical coat hanger for your data analysis and result interpretation. The theoretical framework was one of the essential elements in the research process. The theoretical framework acts as the study's focal point and is pertaining to the research problem being solved. As a result, it influences a researcher's research design and data analysis. According to Ravitch and Carl (2016), the theoretical framework serves as a guide for researchers in locating and interpreting formal theories in their studies.

By applying specified criteria, the theoretical framework aids in achieving good research criteria (Guba, 1981). Enhances the credibility of qualitative information or the validity of statistical data, improves the generalizability of the results of research results from qualitative data or external validity and generalizability of quantitative data analysis, improves the conformability of your findings in qualitative data or objectivity of your findings in quantitative data, and improves the dependability of your findings in quantitative data are some of the criteria that can be fulfilled (Kivunja, 2018). The theory of planned behaviour was used as the theoretical basis in this investigation. It's because, during the Covid-19 pandemic, it's significant to find out what elements influence consumer views of plant purchasing, such as attitude, subjective norm, and perceived behaviour control.

2.8 Theory of Planned Behaviour

According to Ajzen's (1991) theory of planned behaviour (TPB), intentions affect behaviours, defined by three variables: attitudes, subjective norms, and perceived

behavioural control. External influences can also directly compel or prohibit behaviours, independent of purpose, based on how an individual controls the behaviour and the degree to which perceived behavioural control is approximate of actual behavioural control. Furthermore, the theory of planned behaviour is an evolution of the theory of reasoned action (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975), which was necessitated given the original model's limits in responding with activities over which persons have little control. The theory of planned behaviour is now one of the most commonly mentioned and influential models for forecasting human behaviour since its debut over 25 years ago. Figure 2.2 represents the theory of planned behaviour's main factor and the relations of each factor.

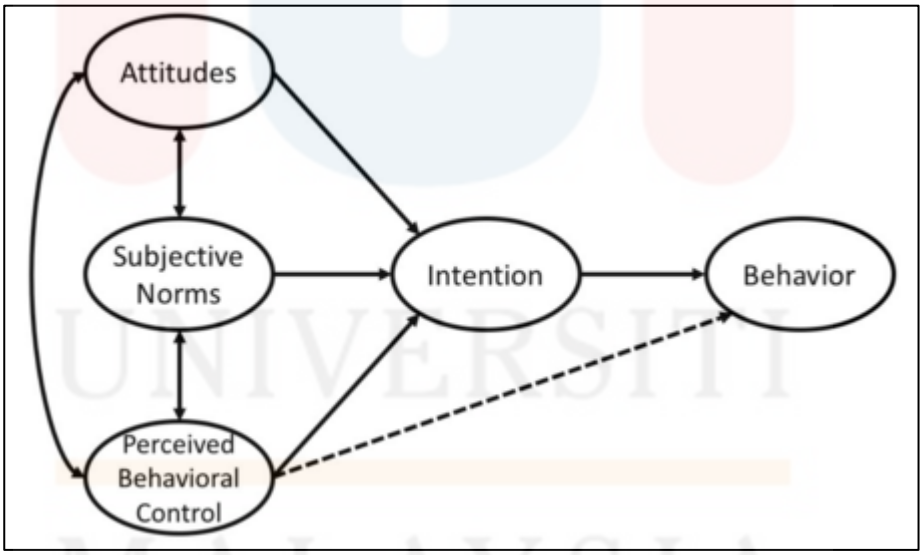

Figure 2.2: Main variables of Theory of Planned Behaviour (Source: Ajzen, 1991)

The first factors that is essential in the theory of planned behaviour was attitude. Attitude is defined by Fishbein and Ajzen (1975) as an individual's personal belief

about executing a specific act. They believe that thoughts are typically developed by either directly observed or inferred life events. They might be either beneficial or bad. Besides, individuals are more likely to engage in a particular conduct if they believe it will result in positive outcomes. For example, as consumers, believe that the plants give more benefits for them. As a result, their believing attitude inspires them to buy plants for their homes. In general, the more an individual perceives that an act will produce favourable effects; the more likely he or she is to participate in such behaviour (Alam et al., 2018).

Subjective norms are another component that is thought to influence behavioural intentions. Subjective norms are a person's impression of societal pressures to behave in a particular way (Ajzen & Fishbein, 1980). In other terms, the higher the person feels how these relationships will assist him/her in participating in some form of action and the greater the incentive individual has in compliance with the reference groups, the greater he/she considers he/she will be encouraged for participating in this conduct. For instance, according to surveys, family, friends, society, and social media have all persuaded customers to buy plants, even during the current Covid-19 pandemic. Otherwise, a person's family or friends' aspirations seem to be more important than either his superiors or society benefit of the entire (Fishbein and Ajzen, 1975).

Attitude and subjective norms have influenced perceived behaviour control. It is more probable in which the consumer not only feels capable but also perceives they to be able to complete the specific behaviours (Yadav & Pathak, 2017). According to Ajzen (1988), perceived behaviour control (PBC) affects an individual's prior experiences and anticipated difficulties. In other words, the more available resources the individual believes he perhaps she has, the fewer the predicted hurdles, and the better the perceived behaviour control. A person's assessment of the risk of the repercussions of acquiring or spreading COVID - 19 is more likely to drive their purchase behaviour.

CHAPTER 3

METHODOLOGY

3.1 Conceptual Framework

The methodology of study outlines the methods and procedures applied in this research, which used a quantitative methodology and collected data via survey questionnaires. Besides, it is arranged in a logical structure to aid provide a picture or visual display of how ideas in a study relate to one another (Grant & Osanloo, 2014). The TPB theory was used in this study to evaluate the relationship between consumer perceptions on plant purchasing amid Covid-19 pandemic in Kelantan. TPB model was attributed to and appropriate for the study's specific objectives, which were to analyze the relationship between attitudes, subjective norm, and perceived behaviour control among consumers on plant purchasing amid Covid-19 pandemic, and to determine the consumer perceptions on plant purchasing amid Covid-19 pandemic in Kelantan. Besides, in this research the concept of independent variables of consumer perceptions on plant purchasing amid Covid-19 pandemic in Kelantan in the modified TPB model were attitude, subjective norm, and perceived behaviour control as given in Figure 3.1.

First, attitudes were the independent variables that encouraged consumers to purchase the plant amid the Covid-19 pandemic. The attitude was a behavioural belief that could indicate and analyze an individual's attitude. In addition, perception,

understanding, emotion, expertise, and documentation are all elements that affect behavioural beliefs.

Next, subjective norm factors have inspired the consumer to purchase plant amid Covid-19 pandemic. Subjective norm is the opinion of whether the majority of people approves or disapproves of the behaviour. In subjective norm, the relevant criteria were able to motivate the consumer to buy plant even during Covid-19 pandemic.For instance, at this era, consumer behaviour was regulated by communal culture. Family, friends, society, government, and social media can all constitute normative beliefs in the community. The consumer's decision to buy a plant may also be influenced by the media, community, and family.

Lastly, the independent variable that influenced the consumer on plant purchasing amid Covid-19 pandemic was perceived behaviour control. It has been affected by the consumer's attitude behaviour, such as skills and knowledge. In general, the TPB conceptual framework of this study, which were attitude, subjective norm, and perceived behaviour control, were factors that influence consumer perceptions on plant purchasing during the Covid-19 pandemic as an independent variable, and consumer perceptions on plant purchasing during the Covid-19 pandemic as a dependent variable.

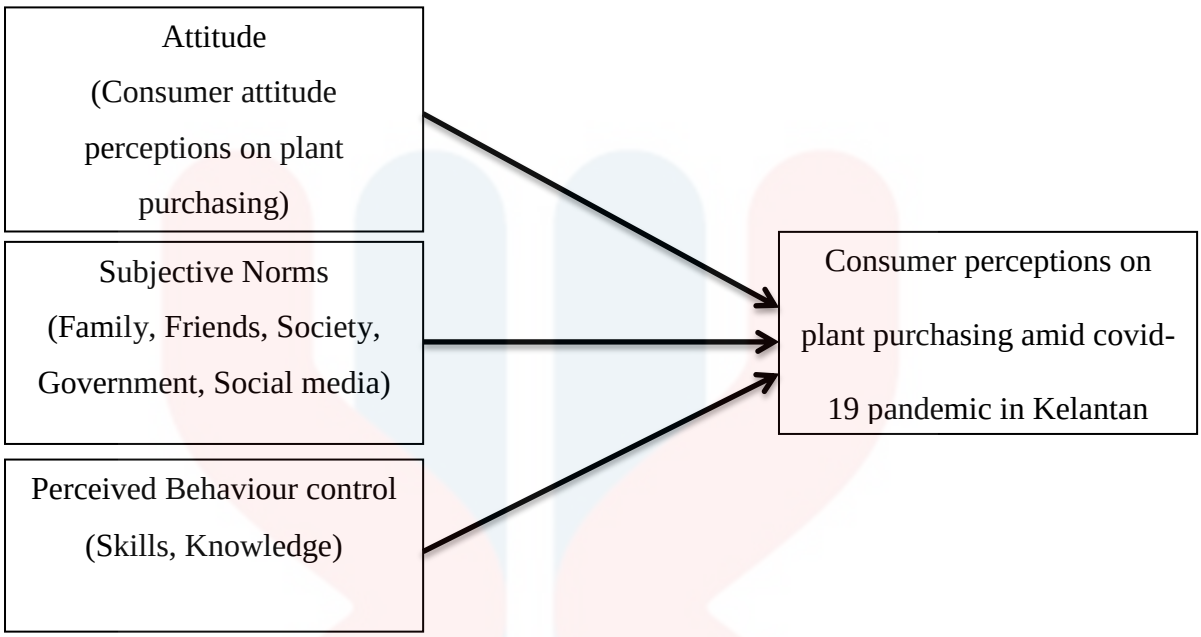

Figure 3.1: Conceptual framework of Theory Planned Behavior model (Source: Adapted model from Ajzen, 1991)

3.2 Sampling Method

This study was designed for consumers who liked to buy plants during the Covid-19 pandemic and determined their perceptions on plant purchasing amid Covid-19 pandemic. Through this study, non-probability sampling methods were used, which means that the sample population was chosen in a non-systematic procedure that did not ensure equal probability for each respondent in the target population (Shorten & Moorly, 2014; Gravetter & Forzano, 2012). Purposive sampling, a form of non-probability approach, was selected to conduct this survey because of its capacity to find respondents who will be most beneficial to the study, cost-effectiveness, and a variety of other benefits. So, the questionnaire was distributed to the consumers in purchasing a plant in Kelantan.

3.2.1 Sample Size

The number of people included in a market research study is sample size. The sample was chosen for this study based on variables such as age, gender, and geographic region. The sample size could be determined by the estimation of the population in the selected area. Since Kelantan has a big population, 384 respondents were chosen as the sample size for this study. The number of these sample sizes is determined by the size of the population to be investigated in the chosen location. The sample size rises in proportion to the population size (Krejcie & Morgan, 1970), as shown in Table 3.1.

However, just 200 people answered the survey questions that were sent out. This is due to a shortage of time and the fact that some people do not answer the survey form handed. A sample size of 200 respondents, however, was also accepted. Roscoe (1975) presented practical criteria that can assist certain studies in choosing the appropriate sample size. A typical rule is to choose a suitable sample and sample size, which is greater than 30 but less than 500 (Memon et al., 2020). However, according to Hoelter (1983), the required sample size is 200. Meanwhile, as of the most recent study by Kline (2005), the minimal rate is less than 100. The medium rate ranges between 100 and 200 sample sizes, while the highest rate exceeds 200 sample sizes. It is extremely difficult to collect data or identify every single item when a study's sample size is in the hundreds or thousands. Because of limited resources, money, and time, the study was unable to cover all districts.

Table 3.1: Sample Size Value with Respective Population Size given by Krejcie & Morgan (1970)

N	s	N	s	N	s
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	100000	384

Note: N is population size
s is sample size

3.2.2 Data Collection

One of the most crucial steps of a certain research project is data collection. Furthermore, data collection is the systematic process of acquiring and measuring

information on variables of interest in order to answer specified research questions, test hypotheses, and evaluate the outcomes. The research was conducted by distributing the questionnaire to consumer who likes to purchase plant in Kelantan region using the Google form approach. The questionnaires have been distributed to 200 consumers in order to identify the consumer perceptions, as well as the relationship between attitudes, subjective norms, and perceived behavioural control toward plant purchasing amid Covid-19 pandemic.

3.2.3 Source of Data

There were two different data sources which were main or known as primary data and secondary data. The respondents' primary data was gathered using a variety of means, including email and phone conversations. The questionnaire includes which was before factors derived from past research and described in the literature review. Following that, secondary data also was acquired from the study's analysis of various sources of information such as journals, books, websites, and newspapers. Aside from that, statistics data from governmental ministries' portals or essential information linked to this research were gathered.

3.2.4 Instrument Method

This questionnaire survey was designed for consumer in Kelantan who like to buy plants. The questionnaire was created using problem statements and a literature study that included socio-demographic variables of respondents. Furthermore, attitude, subjective norm, and perceived behaviour control were variables in determining the consumer purchasing beliefs and preferences toward plants. These factors were crucial in understanding consumer perceptions on plant purchasing amid the Covid-19 pandemic. The questionnaire in this study was made up of the following sections:

Section A: In this section, there were seven questions on the demographic profile of respondents that related to gender, age, race, education level, marital status, monthly income, and plant purchasing frequency.

Section B: The questions were based on consumer perceptions on plant purchasing amid the Covid-19 pandemic, and this portion had 7 questions.

Section C: The attitude questions consist of 7 questions based on consumer plant purchasing during the Covid-19 pandemic in Kelantan.

Section D: In this section, 7 questions of subjective norm had encouraged the consumer on buying plants amid Covid-19 pandemic.

Section E: Contain 7 questions that represent perceived behaviour control of consumers on plant purchasing amid Covid-19 pandemic.

The questions regarding consumer perceptions, attitudes, subjective norms, and perceived behaviour control are developed on a five-point Likert scale and the

evaluation was determined by the degree of agreement: 1– Strongly Disagree; 2– Disagree; 3– Neutral; 4– Agree; 5– Strongly Agree.

3.2.5 Pilot Study

Before being used in this study, the questionnaire was tested. The test was carried out by providing a questionnaire to consumers in Kelantan around November 2021 in order to ensure possible answers and get the desired outcome. The questionnaire has received about 30 responses, which is sufficient to determine the questionnaire's feasibility. Before the questionnaire was distributed to the consumer on plant purchase in Kelantan, the Statistical Package for Social Science Software (SPSS) version 26 was used to analyze the data to determine whether the questions was acceptable and easy to comprehend.

3.3 Data Analysis

Data analysis was utilized to evaluate relevant and crucial elements by analyzing data using analytical and statistical approaches. The survey data were properly analysed and shown. Data cleaning can be accomplished by reviewing frequency and descriptive statistics, and encoding and inputting data. Descriptive statistics such as mean, percentage, minimum, maximum, frequency, and standard deviation can be used to analyse data using the SPSS application. Besides, the Relative Importance Index (RII)

technique was used to compare the relative importance of individual causal relationships based on their probability of occurring and impact on the project using a five-point Likert scale. The RII% was added into the Microsoft Excel 2010 to analyze the data, following the Equation (1) Relative Importance Index (RII) (Khaleel & Nassar, 2018). Furthermore, normality test, and Spearman correlation analysis were employed in this work for inferential statistical analysis.

$$RII\% = \frac{5 * (n5) + 4 * (n4) + 3 * (n3) + 2 * (n2) + 1 * (n1)}{5 * (n1 + n2 + n3 + n4 + n5)} \qquad Equation\ 1$$

Where: *n*1, *n*2, *n*3, *n*4, and *n*5 was the number of respondent's weighting for each factor:

n1 = number of respondents who selected little effect

n2 = number of respondents who selected some effect

n3 = number of respondents who selected average effect

n4 = number of respondents who selected high effect

n5 = number of respondents who selected very high effect

These five expressions, on the other hand, are determined by equal length (Khaleel & Nassar, 2018), as seen below:

10.0 ≤ Little Effect (LE) ≤ 20.0

20.0 ≤ Some Effect (SE) ≤ 40.0

40.0 ≤ Average Effect (AE) ≤ 60.0

60.0 ≤ High Effect (HE) ≤ 80.0

80.0 ≤ Very High Effect (VHE) ≤ 100

3.3.1 Descriptive Analysis

Descriptive analysis was applied in this research to define basic data features. It provides straightforward summarised data that is easier to interpret and evaluate. The descriptive data was required to calculate the mean of the nominal data gathered during this inquiry. It is used to calculate the frequency and proportion of a consumer's demographic profile. Furthermore, the data was collected regarding the consumer perceptions, attitudes, subjective norms, and perceived behaviour control regarding plant purchasing in the midst of the Covid-19 pandemic.

3.3.2 Reliability Test

A reliability study is carried out to determine not whether the questions are reliable in assessing variables. Reliability testing is necessary because it pertains to assessing the accuracy of an instrument (Taherdoost, 2016). Furthermore, to estimate the reliability of the questionnaire, SPSS 26.0 was used to compute alpha for independent variable and dependent variables factors in the questionnaire. Cronbach's alpha reliability coefficients typically ranged from 0.0 to 1.0. The better the internal reliability of the variables in the scale, the closer the coefficient to 1.0. As a result, the variables are approved if the Cronbach Alpha value is at least 0.7 or higher (Taber, 2018). The reliability analysis process examines various widely used types of reliability coefficients and offers information on the link between specific measurement scales using Cronbach's alpha (Kraisuth & Pabjakajornsak, 2018) as given in Table 3.2.

Table 3.2: Cronbach's Alpha Scale of Acceptability

Cronbach's Alpha (α) Consistency	Internal
$\alpha \geq 0.9$	Excellent
$0.8 \leq \alpha < 0.9$	Good
$0.7 \leq \alpha < 0.8$	Acceptable
$0.6 \leq \alpha < 0.7$	Questionable
$0.5 \leq \alpha < 0.6$	Poor
$\alpha < 0.5$	Unacceptable

3.3.3 Normality Test

The most important continuous probability is the standard normal distribution, which has a bell shaped density curve represented by its mean and standard deviation (SD), and high values in the data set have no meaningful impact on the total mean. Basically, there are two most popular methods to test the normality of the data which are Kolmogorov-Smirnov and Shapiro-Wilk (Mishra et al., 2019). The Shapiro–Wilk test is much more suitable for small sample sizes <50, while it could also be used for larger sampling sizes, whereas the Kolmogorov–Smirnov test is used for s ≥50. The null hypothesis for both these preceding tests states that the data are drawn from a normally distributed population. When P > 0.05, the null hypothesis is accepted, and the data is normally distributed. On the other hand, if P<0.05, it indicates that the normality test data was not normally distributed (Godina et al., 2018).

3.3.4 Spearman Correlation Analysis

In this study, the Spearman rank correlation coefficient (r_s) was used as it is a non-parametric assessment of the connection between two series that uses rankings rather than real values. The Spearman correlation coefficient measures the relationship strength among two sets of consumer perceptions on plant purchasing factors. As a result, various academics have regularly used the Spearman rank correlation coefficient for statistical analysis, particularly when the rank is used to analyse data (Kassem et al., 2020). Table 3.3 below shows the Spearman correlation coefficient that used to measure the strength of the association between two variables (Weir, 2016). Therefore, the greater the relationship between the two variables, the closer the value is to the Spearman coefficient (r_s). It will be +1 or -1 based on whether the two variables have a positively or negatively monotonic relationship.

Table 3.3: Spearman correlation coefficient (r_s) between two variables

No	Spearman correlation coefficient (r_s)	Relationship
1	.00 - .19	Very weak
2	.20 - .39	Weak
3	.40 - .59	Moderate
4	.60 - .79	Strong
5	.80 – 1.0	Very strong

CHAPTER 4

RESULT AND DISCUSSION

4.0 Introduction

This chapter for this study explained the study's results and discussion. The study was conducted with 200 consumers in Kelantan who are likely to purchase the plants using the random sample method. The data acquired in this study was used for further investigation. The analysis used describes in detail the study's objectives, which are to determine and rank consumer perceptions on plant purchasing during the Covid-19 pandemic, to measure and rank consumer perceptions on plant purchasing during the Covid-19 pandemic in determining the factors of attitude, subjective norm, and perceived behaviour control, and to analyse the relationship of attitude, subjective norm, and perceived behaviour control among consumers on plant purchasing during the Covid-19 pandemic in Kelantan.

4.1 Internal Reliability Test

Table 4.1: Reliability test of value

Value	Cronbach's Alpha (α)	Number of Item
Consumer Perceptions on Plant Purchasing	0.742	7
Attitudes	0.810	7
Subjective Norm	0.834	7
Perceived Behaviour Control	0.821	7

(Source: Survey, 2021)

This test was used in a survey with multiple Likert scale questions to create a scale and find the reliability of the questionnaire. The first step includes distributing the questionnaire to consumer specialists interested in plants and conducting a pilot study to assess the practicality of the questions, achievement of the research aims, and reliability in computing what was generated for it. As well as the ability to compute the estimated calculation of the methodologies utilized in the study.

For this study, 30 respondents were used as a sample size to obtain the question's reliability. According to Conroy (2015), a pilot test required at least 30 respondents as the sample to estimate the reliability with α by taking into account the scale items' significant correlations among items. As a result of this research, the (α) for all variables are in the range of (0.70 to 0.90) and the values reported in Table 4.1 are greater than 0.70. As a nutshell, this reliability data is outstanding, and all of these questions are appropriate for the study.

4.2 Demographic Profile of Respondents

This section was analyzing the demographic profile of respondents in Kelantan. This section examines the respondents' demographic profile. In this demographic part, seven questions have been provided. Gender, age, race, education level, marital status, monthly income, and plant purchasing frequency are among the socio-demographic questions asked as shown in Table 4.2.

Table 4.2: The demographic profile of respondents in Kelantan

Variables	Frequency	Percentage (%)
Gender		
Male	41	20.5
Female	159	79.5
Age		
<20 years	6	3.0
20-29 years	133	66.5
30-39 years	29	14.5
40-49 years	24	12.0
>49 years	8	4.0
Race		
Malay	173	86.5
Chinese	24	12.0
Indian	3	1.5
Education level		
SPM	11	5.5
STPM	6	3.0
Diploma	16	8.0
Degree/ Master degree/ PhD	167	83.5
Marital status		
Single	140	70.0
Married	59	29.5
Widowed	1	0.5
Monthly income		
<RM501	88	44.0
RM501- RM1500	28	14.0
RM1501- RM2500	21	10.5
RM2501- RM3500	13	6.5
>RM3500	50	25.0
Plant purchasing frequency		

Never	49	24.5
Once a week	22	11.0
Once a month	45	22.5
2- 3 times a month	29	14.5
Once a year	55	27.5

(Source: Survey, 2021)

According to Table 4.2, 79.5% of the 200 respondents to this survey are women, resulting in a total collection of 159 persons. Meanwhile, men are also not exempt from buying plants. As evidence, 41 persons (20.5%) have replied to the purchase of plants during the Covid-19 pandemic. It is apparent that women are attracted to engage in activities such as gardening because they are more likely to purchase these plants. Furthermore, the Covid-19 crisis they are currently facing allows them to have their own nursery at home.

Next, the age of the respondents of the study's participants was targeted who were ranges less than 20 years old to 49 years old and above. The age distribution of the study's participants is shown in Table 4.2. The data showed that respondents aged 20 to 29 years were more inclined to acquire plants, accounting for 133 people in this age group (66.5%). Nevertheless, individuals under the age of 20 like to buy plants, and this data shows that 6 persons (3.0%) of these consumers buy plants. Besides, the second-lowest age category was comprised by people over the age of 49, with 8 responses accounting for 4.0%. While, the remaining consumers who participated in this survey was 29 people (14.5%) with age range 30 to 39 years old and consumers aged 40 to 49 years participated in about 24 people (12.0%).

Then, the Table 4.2 shows the race of respondents for this study. The race was categorized into three: Malay, Chinese, and Indian. The highest number of respondents was 173 people (86.5%) who are Malay consumers. They were then followed by Chinese, with 24 (12.0%) respondents. The least by India, only 3 people (1.5%) were

involved in a consumer perception questionnaire survey on plant purchases amid the Covid-19 pandemic. Next, the education level of respondents as consumers in purchasing plants is derived from the SPM background, which consists of 11 people (5.5%). Then, respondents from STPM backgrounds have the fewest respondents, which is 6 people (3.0%). Next, the second highest is 16 users with a diploma (8.0%) and 167 with a bachelor, master and PhD (83.5%).

In this study, the marital status of Kelantan consumers revealed that 140 out of 200 people (70.0%) are single, as well as the 59 respondents (29.5%) married and only one consumer (0.5%) widowed. In addition, based on the Table 4.2, most consumers have a monthly income of less than RM501, which equates to 88 people (44.0%). Following that, a total of 50 people have an income of more than RM3500 (25.5%). Meanwhile, 13 respondents have a monthly income of RM2501 to RM3500 (6.5%). Finally, for those with incomes ranging from RM501 to RM1500 and RM1501 to RM2500, there were 28 (14.0%) and 21 (10.5%) respondents, respectively.

Finally, demographic data of questions related to plant purchasing frequency were collected in the distributed survey questionnaire, and it was discovered that a total of 55 people (27.5%) buy plants once a year. The second highest number is 49 people who have never purchased a plant (24.5%). There are also those who buy plants only once a month, accounting for 22.5 percent of respondents (45 users). Following that, as many as 29 people (14.5%) buy plants 2-3 times a month, and as many as 22 people buy plants once a week (11.0%) as shown in Table 4.2.

4.3 Analysed and Rank the Consumer Perceptions on Plant Purchasing Amid Covid-19 Pandemic

The study in this part comprises the first objective, a consumer perception of plant purchasing in Kelantan amid Covid-19 pandemic. The Table 4.3 shows the ranking of seven factors classified under the consumer perceptions on plant purchasing amid Covid-19 pandemic according to the RII%.

Table 4.3: Ranking of consumer perceptions on plant purchasing amid Covid-19 pandemic using RII%

Consumer perceptions factors	RII (%)	Rank	Degree of Effect
1) Covid-19 pandemic has changed and inspired me to buy and grow my own plants.	40.7	7	AE
2) Buying and owning plants can help me in ensuring a comfortable working environment.	86.6	3	VHE
3) Purchasing plants can help me fill my free time during Covid-19 pandemic.	84.6	4	VHE
4) The purchase of plants can help nursery traders in generating their income.	89.6	1	VHE
5) Plant purchase became a trend to consumers during the Covid-19 pandemic.	87.4	2	VHE
6) Covid-19 pandemic changed the way I purchase plants by taking in the nursery to online purchases.	83.2	5	VHE
7) Plant can be purchased at an affordable price post covid-19 era.	80.1	6	VHE

(Source: Survey, 2021)

First, it demonstrates that the majority of the "consumers' belief that plant purchases can assist nursery sellers in generating income" and it placed this as the most significant factor attributed to consumer perceptions on plant purchasing, with a RII% of 89.6%. This assertion can be strengthened further since, according to past research (Mamun et al., 2018), plant nursery owners sell plants and also give other sorts of services such as rooftops planting, landscapes, and so on. It is due to the large increase in income, increasing urbanization, environmental deterioration, and nutritional benefits (BBS, 2018; Statista, 2018; ECDS, 2017).

Next, the least significant characteristic influencing consumer perception of plant purchasing during the Covid-19 pandemic, with a RII% of 40.7%, is "the Covid-19 pandemic has changed and inspired me to buy and grow my own plants". Based on the Table 4.3, the statement "Plant purchase became a trend to consumers during the Covid-19 pandemic" is ranked as the second VHE with RII% of 87.4%. This demonstrates how customers believe that purchasing and owning a plant can help them spend time and give a comfortable environment even at home. For instance, according to the survey, the preceding statement was backed by the statement "Buying and owning plants can help me in ensuring a comfortable working environment" since this factor also received the third highest ranking with a RII% of 86.6% and followed by statement "Purchasing plants can help me fill my free time during Covid-19 pandemic" with a RII% of 84.6% as the fourth ranked.

Furthermore, it shows that the "Covid-19 pandemic changed the way I purchase plants by taking in the nursery to online purchases" as the fifth factors as the ranked of RII% is 83.2%. This is because the Covid-19 pandemic has changed the way consumers purchase for various reasons; including stay-at-home ordering and alterations in how businesses promote their products (Campbell et al., 2021). Besides, studying prospective consumers' perceptions of plants and gardens, and plant purchasing behaviour, can help green businesses and organizations promote their products more successfully (Wilson et al., 2013). Lastly, the factors of "Plant can be purchased at an affordable price post covid-19 era" is the second least as the RII% of 80.1% with sixth ranked among all the factors in the consumer perceptions on plant purchasing amid Covid-19 pandemic.

4.4 Identified and Ranked the Factors that Affect Consumer Perceptions on Plant Purchasing

In this study, three groups of variables were considered and they were ranked using the RII. The results of this study were discovered by applying the software SPSS version 26 to calculate the RII of the impact intensity based on Likert scale of 1 to 5 for each variable independently based on respondents and questionnaire responses. Furthermore, the Excel programme (MS Excel 2010) was used to apply the formula for calculating the importance coefficient.

4.4.1 Attitude Group

Table 4.4: Ranking attitude factors

Attitude factors	RII (%)	Rank	Degree of Effect
1) The Covid-19 pandemic has changed my plant buying habits.	76.7	6	HE
2) I know plants can give us many benefits.	92.3	1	VHE
3) I often sacrifice my personal income to buy plants as a collection of plants to suit my needs.	67.5	7	HE
4) I believe there are consumers who buy plants and take care of those plants in a good way to liven up the atmosphere into the house.	89.8	2	VHE
5) I plan to buy plant-based products.	79.9	4	HE
6) I am confident that buying plants such as herbal plant products does not pose a risk to health.	85.2	3	VHE
7) I am determined to take good care of my purchased plants before they are sold to increase my side income.	78.1	5	HE
Result of attitude group	RII (%)	Rank	Degree of Effect
	81.36	1	VHE

(Source: Survey, 2021)

Based on the Table 4.4, this analysis proves that, with a RII% of 92.3%, the most significant factor influencing consumer attitudes toward purchasing plants during the Covid-19 pandemic is ranked for the question "I know plants can give us many benefits". The statement was supported as the plants' psychological, emotional, economical, and intellectual benefits can be essential during this period of prolonged solitude (Sofo & Sofo, 2020).

The second VHE as the RII% of 89.8 % is "I believe there are consumers who buy plants and take care of those plants in a good way to liven up the excitement into the house," followed by "I am confident that buying plants such as herbal plant products does not pose a health risk," with the third ranks RII% of 85.2 %. For instance, Malaysians continue to choose herbal-based products for preventive care and ailment treatment (Rezai et al., 2013). However, with a RII% of 67.5 %, they ranked "I often sacrifice my income to buy plants as a collection of plants to fit my needs" as the lowest score in this category. Finally, it shows that attitudes have a crucial impact on consumer perceptions of plant purchasing in the face of the Covid-19 pandemic. In conclusion, this group factor scored the first rank among three variables in investigated with RII% of 81.36%.

4.4.2 Subjective Norm Group

Table 4.5: Ranking subjective norm factors

Subjective norm factors	RII (%)	Rank	Degree of Effect
1) My family members love it if I buy plants to beautify the home area.	84.3	1	VHE
2) The surrounding community influenced me to buy plants and take proper care of them.	80.1	3	VHE
3) Media information such as advertisements and newspapers about plants influenced me to buy plants that I liked.	80.4	2	VHE
4) My friend suggested me to buy plant online during the Covid-19 pandemic.	73.9	7	HE
5) The sustainability campaign driven by the government and the private sector inspired me to buy plants in order to maintain environmental sustainability.	78.4	4	HE
6) Society made me think that the high demand in the purchase of plants allowed me to focus on the sale of the plant in order to generate my side income.	76.2	6	HE
7) The Agriculture and Farmer Entrepreneurs Carnival organized online has influenced me to buy plant-based products that have been showcased by their staff.	76.4	5	HE
Result of subjective norm group	RII (%)	Rank	Degree of Effect
	78.53	3	HE

(Source: Survey, 2021)

Based on the responses provided by respondents in the questionnaire, this section analysed the consumer impressions of plant purchasing. The RII% and ranks of the components grouped under the "subjective norm group" are assessed in this part, as indicated in Table 4.5. It shows that the surveyed participants ranked "My family members love it if I buy plants to beautify the home area" as the majority question relevant to the consumer perceptions on purchase plants in this group, with a RII% of 84.3%. For example, the assumption that the aspirations of a person's family and friends

are more powerful than among his supervisors or community as a whole was supported (Fishbein and Ajzen, 1975).

The second-ranking, with a RII% percentage of 80.4%, is "Media information such as advertisements and newspapers about plants motivated me to buy plants that I liked," followed by "The surrounding community influenced me to acquire plants and take proper care of them," with a RII% percentage of 80.1%. Subsequently, government-sponsored efforts encouraged consumers to grow their plants. The program focuses on urban and rural regions, supporting residents to farm for their consumption and processing the remainder. Planting vegetables in the backyard is done with the concept of a 'kitchen garden' or 'edible landscape,' which immediately beautifies the landscape of their residential regions (Department, 2022). The question "The sustainability campaign supported by the government and the corporate sector prompted me to acquire plants in order to maintain environmental sustainability" received a RII% ranking of 78.4 % in the survey that has been applied in the subjective norm. As a result of the tap's campaign to raise awareness about the importance of keeping a sustainable environment, we can see some people buy plants.

In comparison, with a RII% of 73.9 %, the variable "My friend suggested I buy plant online during the Covid-19 pandemic" is the least relevant variable that affected consumer plant purchasing in this group. Despite the low characteristics suggested by friends, they also assist consumers in giving opinions and advice on purchasing a product. Friends, family, and neighbours emerged as the most often consulted sources for advice and guidance while purchasing plants (Dunn et al., 2020). This group came in third place among three groups of variables investigated with RII% of 78.53%.

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4.4.3 Perceived Behaviour Control Group

Table 4.6: Ranking perceived behaviour control factors

Perceived behaviour control factors	RII (%)	Rank	Degree of Effect
1) It is very easy for me to handle the plants I bought.	77.7	6	HE
2) It is very easy for me to purchase plants online.	78.5	5	HE
3) I feel happy to gain knowledge about the plants I want to buy.	84.2	1	VHE
4) I always buy plants even during the Covid-19 crisis.	71	7	HE
5) I know buying plants online has a high risk of damage to the plant.	83.2	2	VHE
6) When purchasing a plant, it turned out to be difficult for me to identify the quality of the plant.	80.7	3	VHE
7) I am able to expand my knowledge on the use of plants in medicine, cosmetics and others.	80.6	4	VHE
Result of perceived behaviour control group	RII (%)	Rank	Degree of Effect
	79.41	2	HE

(Source: Survey, 2021)

Skills and knowledge are elements of perceived behaviour control. The ranking of seven questions under perceived behaviour control is shown in Table 4.6. First, with RII% 84.2%, it demonstrates that the most important aspect in this group is "I feel happy to gain knowledge about the plants I wish to buy." The customer then backed "I know buying plants online has a high risk of plant damage" with a second rank of RII% 83.2%. With the consumer's knowledge, they understand that the risk of purchasing the plant online seems to be very significant, as is the likelihood of the purchased plant incurring damage. This is commonly induced by the pressure of spending extended periods of time inside a windowless truck that might be on the street for long, or by improper handling. There also the possibility that the plants were ill to begin with before being sent out for delivery (Carmela, 2020).

The third ranking with RII% of 80.7% is "When acquiring a plant, it was difficult for me to identify the quality of the plant." Followed by “I am able to expand my knowledge on the use of plants in medicine, cosmetics and others” with RII% of 80.6%. Also with skills and information they have gained, it is relatively simple for them to care for the crops they have purchased as consumers. As evidence, the criteria "It is very easy for me to manage the plants I bought" and "It is extremely easy for me to acquire plants online" received RII% values of 76.7% and 78.5%, respectively.

Finally, with a RII% of 71%, they ranked "I always buy plants even during the Covid-19 crisis" as the least significant. According to the results of this survey, hardly a few people buy plants regularly. Indeed, as we can see from the demographic profile of respondents (Table 4.2), the frequency of plant purchases implies that individuals exclusively buy plants based on their preferences. In conclusion, this group factor scored the second ranked with RII% of 79.41%.

4.5 The Relationship of Attitude, Subjective norm and Perceived Behaviour Control among Consumer Perceptions on Plant Purchasing amid Covid-19 Pandemic

Spearman's Correlation was utilized to examine the relationship between attitude, subjective norms, and perceived behaviour control among consumer perceptions of plant purchasing during the Covid-19 pandemic. The independent variables in this study were attitude, subjective norms, and perceived behaviour control, while the dependent variable was consumer perceptions of plant purchasing during the Covid-19 pandemic. The primary goal of this study was to test the hypothesis that there

is a relationship between attitude, subjective norm, and perceived behaviour control in consumer perceptions of plant purchasing amid Covid-19 pandemic. Therefore, two hypotheses to be analyzed in this study:

H_0: There is no significant relationship between attitude, subjective norms and perceived behaviour control among consumers on plant purchasing amid covid-19 pandemic in Kelantan.

$H_{1:}$ There is a significant relationship between attitude, subjective norms and perceived behaviour control among consumers on plant purchasing amid covid-19 pandemic in Kelantan.

Table 4.7: Kolmogorov-Smirnov test

	Statistics	Df	Sig.
Consumer perceptions	.500	200	.000
Attitude	.463	200	.000
Subjective norm	.414	200	.000
Perceived behaviour control	.441	200	.000

(Source: Survey, 2021)

Before the correlation was tested, the normality test was used to determine if the data set in this study was well described by a normal or non-normal distribution (Kim & Park, 2019). According to Table 4.7, the P-value for the data was 0.000 for all the factors, according to the normality test by using SPSS. So, if the p-value is greater than 0.05, the normality test was a normal distribution; alternatively, if the p-value is less than 0.05, the normality test was a non-normal distribution (Godina et al., 2018). This implies that the Kolmogorov-Smirnov test was used because the sample size for this

investigation was greater than 50, resulting in 200 sample sizes. In fact, this test was used since the data set had a p-value less than 0.05, indicating an irregular distribution of the data.

Table 4.8: Result of Spearman correlation coefficient analysis

		Attitude	Subjective Norm	Perceived Behavioural Control
Consumer perceptions on plant purchasing amid Covid-19 pandemic	Spearman Correlation	.642**	.525**	.538**
	Sig. (2-tailed)	.000	.000	.000

**Correlation is significant at the 0.01 level (2-tailed)
(Source: Survey, 2021)

Next, by referring to Table 3.3, the Spearman correlation coefficient, according to George & Mallery (2016), is a coefficient that evaluates the correlation between sociological variables or two or more variables to check maybe one or a set of them is related with another. For example, this research aims to see a correlation between attitude, subjective norm, and perceived behaviour control factors among consumer perception on plant purchasing amid Covid-19 pandemic.

As shown by Table 4.3, the relationship between attitude and customers was significant, with an r_s=0.642 value. Due to the obvious strength of the correlation between two variables and the significance at the 0.01 level (2-tailed) (p=0.000), because this relationship was at a coefficient range of 0.60 to 0.79. This attitude aspect has persuaded consumers to acquire a variety of desired plants because they think that perhaps the purchased product gives benefits and positively impacts their shopping decisions (Gupta, 2014). During the Covid-19 pandemic, for example, the consumer feels that plants, such as herbal remedies, might solve their health concerns. As a result,

consumers' ideas about product labels and perceptions of health consequences play a key role in determining purchasing behaviour (Smed et al., 2013).

Next, the subjective norm relationships among consumers also correlate at the value r_s=0.525 and significant at the 0.01 level (2-tailed) with p=0.000. According to Table 3.3, this subjective norm indicates a moderate level as the correlation coefficient was ranged of 0.40 to 0.59. In this study, all stakeholders, including family, friends, society, social media, and the government, play a crucial role in encouraging and influencing customers to purchase plants. Before this, the studies were conducted by Chou, Wang, and Tang (2015) and Mohd Suki (2014) which was discovered that social influence plays a significant role in affecting customer behaviour. Furthermore, subjective norms greatly influence consuming behaviour and goods purchases, as does discovering what friends and family can spend (Zainudin, 2013).

Table 4.8 demonstrates a moderate association of perceived behaviour control to consumer perceptions on plant purchasing amid Covid-19 pandemic, with r_s=0.538 and a significance level at the 0.01 level (2-tailed). According to the study's findings, the sense of behavioural control has a considerable influence on consumption behaviour, which is consistent with previous research (Girelli et al., 2016).

According to this study, the relationship between attitude, subjective norms, and perceived behavioural control among consumer perceptions on plant purchasing during the Covid-19 pandemic is significant. This is due to the fact that all of the factors have a relationship with the dependent variables. As a result, in this study, H_1 is accepted but H_0 is denied.

CHAPTER 5

CONCLUSION AND RECOMMENDATION

5.1 Conclusion

As a result, three objectives were identified in this study: to determine and rank consumer perceptions on plant purchasing during the Covid-19 pandemic in Kelantan, to measure and rank consumer perceptions on plant purchasing during the Covid-19 pandemic towards the factors of attitude, subjective norm, and perceived behaviour control, and to analyse the relationships between attitude, subjective norm, and perceived behaviour control among consumers on plant purchasing. All of the aims were achieved in this study.

The first goal is reached when the variable showed a very high influence, with a score of 89.6% at the top of the list. Furthermore, the second goal of this study was achieved, as attitude received the highest ranking with a RII% of 81.36 %, and influenced consumer perception on plant purchasing. Finally, the third goal was met when the null hypothesis (H_0) was rejected, indicating that there was a great significance between the relationship of attitude, subjective norms, and perceived behaviour control among consumer perceptions on plant purchasing during the Covid-19 pandemic in Kelantan. Spearman's Correlation Analysis was used to study this goal.

In conclusion, purchasing and having plants at home during the Covid-19 pandemic could assist consumers in releasing their troubles and feeling better. Possibly

it is for this purpose that gardening has been recognized as one of the activities with a greater favourable impact on mental well-being (Ambrose et al., 2020). As a result, this study concludes that all factors, including attitude, subjective norms, and perceived behaviour control, influence consumer perceptions of plant purchase during the Covid-19 pandemic.

5.2 Recommendation

Future research could be conducted to discover the most influential factors on consumer perceptions on plant purchasing in each Malaysian state. The factors that influence consumer perception in each Malaysian state should be compared for further research. As a result, future research can concentrate on other plant-related categories using the same Relative importance index (RII) methodology. Furthermore, it is proposed that additional study should conduct to guarantee continuity with previous studies. Further research should concentrate on determining the factors that influence the buying of plant-based products such as herbs, beauty, and cosmetics in Malaysia.

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APPENDICES

APPENDIX A

Table A.1: Cronbach's Alpha Test of 30 Respondents for Consumer Perceptions on Plant Purchasing

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.742	.768	7

Table A.2: Cronbach's Alpha Test of 30 Respondents for Attitude

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.810	.835	7

Table A.3: Cronbach's Alpha Test of 30 Respondents for Subjective Norm

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.834	.839	7

Table A.4: Cronbach's Alpha Test of 30 Respondents for Perceived Behaviour Control

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.821	.828	7

Table A.5: Descriptive for Gender of Respondents

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	41	20.5	20.5	20.5
	Female	159	79.5	79.5	100.0
	Total	200	100.0	100.0	

Table A.6: Descriptive for Age of Respondents

Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 20 years	6	3.0	3.0	3.0
	20-29 years	133	66.5	66.5	69.5
	30-39 years	29	14.5	14.5	84.0
	40-49 years	24	12.0	12.0	96.0
	More than 49 years	8	4.0	4.0	100.0
	Total	200	100.0	100.0	

Table A.7: Descriptive for Race of Respondents

Race

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Malay	173	86.5	86.5	86.5
	Chinese	24	12.0	12.0	98.5
	Indian	3	1.5	1.5	100.0
	Total	200	100.0	100.0	

Table A.8: Descriptive for Education Level of Respondents

Education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	SPM	11	5.5	5.5	5.5
	STPM	6	3.0	3.0	8.5
	Diploma	16	8.0	8.0	16.5
	Degree/Master degree/PhD	167	83.5	83.5	100.0
	Total	200	100.0	100.0	

Table A.9: Descriptive for Marital Status of Respondents

Marital Status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Single	140	70.0	70.0	70.0
	Married	59	29.5	29.5	99.5
	Widowed	1	.5	.5	100.0
	Total	200	100.0	100.0	

Table A.10: Descriptive for Monthly Income of Respondents

Monthly Income

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than RM501	88	44.0	44.0	44.0
	RM501-RM1500	28	14.0	14.0	58.0
	RM1501-RM2500	21	10.5	10.5	68.5
	RM2501-RM3500	13	6.5	6.5	75.0
	More than RM3500	50	25.0	25.0	100.0
	Total	200	100.0	100.0	

Table A.11: Descriptive for Plant Purchasing Frequency of Respondents

Plant Purchasing Frequency

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	49	24.5	24.5	24.5
	Once a week	22	11.0	11.0	35.5
	Once a month	45	22.5	22.5	58.0
	2-3 times a month	29	14.5	14.5	72.5
	Once a year	55	27.5	27.5	100.0
	Total	200	100.0	100.0	

Table A.12: Descriptive for Consumer Perceptions on Plant Purchasing (Dependent Variable 1)

DV1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	5	2.5	2.5	2.5
	Disagree	11	5.5	5.5	8.0
	Neutral	40	20.0	20.0	28.0
	Agree	65	32.5	32.5	60.5
	Strongly Agree	79	39.5	39.5	100.0
	Total	200	100.0	100.0	

Table A.13: Descriptive for Consumer Perceptions on Plant Purchasing (Dependent Variable 2)

DV2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	9	4.5	4.5	4.5
	Neutral	15	7.5	7.5	12.0
	Agree	77	38.5	38.5	50.5
	Strongly Agree	99	49.5	49.5	100.0
	Total	200	100.0	100.0	

Table A.14: Descriptive for Consumer Perceptions on Plant Purchasing (Dependent Variable 3)

DV3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	2	1.0	1.0	1.0
	Disagree	8	4.0	4.0	5.0
	Neutral	27	13.5	13.5	18.5
	Agree	68	34.0	34.0	52.5
	Strongly Agree	95	47.5	47.5	100.0
	Total	200	100.0	100.0	

Table A.15: Descriptive for Consumer Perceptions on Plant Purchasing (Dependent Variable 4)

DV4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	6	3.0	3.0	3.0
	Neutral	13	6.5	6.5	9.5
	Agree	60	30.0	30.0	39.5
	Strongly Agree	121	60.5	60.5	100.0
	Total	200	100.0	100.0	

Table A.16: Descriptive for Consumer Perceptions on Plant Purchasing (Dependent Variable 5)

DV5

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	6	3.0	3.0	3.0
	Neutral	22	11.0	11.0	14.0
	Agree	64	32.0	32.0	46.0
	Strongly Agree	108	54.0	54.0	100.0
	Total	200	100.0	100.0	

Table A.17: Descriptive for Consumer Perceptions on Plant Purchasing (Dependent Variable 6)

DV6

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	1	.5	.5	.5
	Disagree	4	2.0	2.0	2.5
	Neutral	38	19.0	19.0	21.5
	Agree	76	38.0	38.0	59.5
	Strongly Agree	81	40.5	40.5	100.0
	Total	200	100.0	100.0	

Table A.18: Descriptive for Consumer Perceptions on Plant Purchasing (Dependent Variable 7)

DV7

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	15	7.5	7.5	7.5
	Neutral	46	23.0	23.0	30.5
	Agree	62	31.0	31.0	61.5
	Strongly Agree	77	38.5	38.5	100.0
	Total	200	100.0	100.0	

Table A.19: Descriptive for Attitude Factor (A1)

A1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	7	3.5	3.5	3.5
	Disagree	10	5.0	5.0	8.5
	Neutral	59	29.5	29.5	38.0
	Agree	57	28.5	28.5	66.5
	Strongly Agree	67	33.5	33.5	100.0
	Total	200	100.0	100.0	

Table A.20: Descriptive for Attitude Factor (A2)

A2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	2	1.0	1.0	1.0
	Neutral	11	5.5	5.5	6.5
	Agree	49	24.5	24.5	31.0
	Strongly Agree	138	69.0	69.0	100.0
	Total	200	100.0	100.0	

Table A.21: Descriptive for Attitude Factor (A3)

A3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	11	5.5	5.5	5.5
	Disagree	32	16.0	16.0	21.5
	Neutral	68	34.0	34.0	55.5
	Agree	49	24.5	24.5	80.0
	Strongly Agree	40	20.0	20.0	100.0
	Total	200	100.0	100.0	

Table A.22: Descriptive for Attitude Factor (A4)

A4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	2	1.0	1.0	1.0
	Disagree	2	1.0	1.0	2.0
	Neutral	15	7.5	7.5	9.5
	Agree	58	29.0	29.0	38.5
	Strongly Agree	123	61.5	61.5	100.0
	Total	200	100.0	100.0	

Table A.23: Descriptive for Attitude Factor (A5)

A5

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	4	2.0	2.0	2.0
	Disagree	10	5.0	5.0	7.0
	Neutral	44	22.0	22.0	29.0
	Agree	67	33.5	33.5	62.5
	Strongly Agree	75	37.5	37.5	100.0
	Total	200	100.0	100.0	

Table A.24: Descriptive for Attitude Factor (A6)

A6

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	3	1.5	1.5	1.5
	Neutral	31	15.5	15.5	17.0
	Agree	77	38.5	38.5	55.5
	Strongly Agree	89	44.5	44.5	100.0
	Total	200	100.0	100.0	

Table A.25: Descriptive for Attitude Factor (A7)

A7

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	1	.5	.5	.5
	Disagree	14	7.0	7.0	7.5
	Neutral	54	27.0	27.0	34.5
	Agree	65	32.5	32.5	67.0
	Strongly Agree	66	33.0	33.0	100.0
	Total	200	100.0	100.0	

Table A.26: Descriptive for Subjective Norm Factor (SN1)

SN1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	2	1.0	1.0	1.0
	Disagree	6	3.0	3.0	4.0
	Neutral	35	17.5	17.5	21.5
	Agree	61	30.5	30.5	52.0
	Strongly Agree	96	48.0	48.0	100.0
	Total	200	100.0	100.0	

Table A.27: Descriptive for Subjective Norm Factor (SN2)

SN2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	3	1.5	1.5	1.5
	Disagree	8	4.0	4.0	5.5
	Neutral	52	26.0	26.0	31.5
	Agree	59	29.5	29.5	61.0
	Strongly Agree	78	39.0	39.0	100.0
	Total	200	100.0	100.0	

Table A.28: Descriptive for Subjective Norm Factor (SN3)

SN3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	1	.5	.5	.5
	Disagree	7	3.5	3.5	4.0
	Neutral	48	24.0	24.0	28.0
	Agree	75	37.5	37.5	65.5
	Strongly Agree	69	34.5	34.5	100.0
	Total	200	100.0	100.0	

Table A.29: Descriptive for Subjective Norm Factor (SN4)

SN4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	10	5.0	5.0	5.0
	Disagree	16	8.0	8.0	13.0
	Neutral	51	25.5	25.5	38.5
	Agree	71	35.5	35.5	74.0
	Strongly Agree	52	26.0	26.0	100.0
	Total	200	100.0	100.0	

Table A.30: Descriptive for Subjective Norm Factor (SN5)

SN5

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	17	8.5	8.5	8.5
	Neutral	50	25.0	25.0	33.5
	Agree	65	32.5	32.5	66.0
	Strongly Agree	68	34.0	34.0	100.0
	Total	200	100.0	100.0	

Table A.31: Descriptive for Subjective Norm Factor (SN6)

SN6

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	2	1.0	1.0	1.0
	Disagree	16	8.0	8.0	9.0
	Neutral	51	25.5	25.5	34.5
	Agree	80	40.0	40.0	74.5
	Strongly Agree	51	25.5	25.5	100.0
	Total	200	100.0	100.0	

Table A.32: Descriptive for Subjective Norm Factor (SN7)

SN7

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	5	2.5	2.5	2.5
	Disagree	15	7.5	7.5	10.0
	Neutral	51	25.5	25.5	35.5
	Agree	69	34.5	34.5	70.0
	Strongly Agree	60	30.0	30.0	100.0
	Total	200	100.0	100.0	

Table A.33: Descriptive for Perceived Behaviour Control Factor (P1)

P1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	2	1.0	1.0	1.0
	Disagree	13	6.5	6.5	7.5
	Neutral	51	25.5	25.5	33.0
	Agree	74	37.0	37.0	70.0
	Strongly Agree	60	30.0	30.0	100.0
	Total	200	100.0	100.0	

Table A.34: Descriptive for Perceived Behaviour Control Factor (P2)

P2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	9	4.5	4.5	4.5
	Neutral	54	27.0	27.0	31.5
	Agree	80	40.0	40.0	71.5
	Strongly Agree	57	28.5	28.5	100.0
	Total	200	100.0	100.0	

Table A.35: Descriptive for Perceived Behaviour Control Factor (P3)

P3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	5	2.5	2.5	2.5
	Neutral	29	14.5	14.5	17.0
	Agree	85	42.5	42.5	59.5
	Strongly Agree	81	40.5	40.5	100.0
	Total	200	100.0	100.0	

Table A.36: Descriptive for Perceived Behaviour Control Factor (P4)

P4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	12	6.0	6.0	6.0
	Disagree	21	10.5	10.5	16.5
	Neutral	56	28.0	28.0	44.5
	Agree	67	33.5	33.5	78.0
	Strongly Agree	44	22.0	22.0	100.0
	Total	200	100.0	100.0	

Table A.37: Descriptive for Perceived Behaviour Control Factor (P5)

P5

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	3	1.5	1.5	1.5
	Disagree	1	.5	.5	2.0
	Neutral	40	20.0	20.0	22.0
	Agree	73	36.5	36.5	58.5
	Strongly Agree	83	41.5	41.5	100.0
	Total	200	100.0	100.0	

Table A.38: Descriptive for Perceived Behaviour Control Factor (P6)

P6

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	11	5.5	5.5	5.5
	Neutral	36	18.0	18.0	23.5
	Agree	88	44.0	44.0	67.5
	Strongly Agree	65	32.5	32.5	100.0
	Total	200	100.0	100.0	

Table A.39: Descriptive for Perceived Behaviour Control Factor (P7)

P7

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	1	.5	.5	.5
	Disagree	9	4.5	4.5	5.0
	Neutral	40	20.0	20.0	25.0
	Agree	83	41.5	41.5	66.5
	Strongly Agree	67	33.5	33.5	100.0
	Total	200	100.0	100.0	

Table A.40: Normality Test of the Variables

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
COMPUTE_DV	.500	200	.000	.466	200	.000
COMPUTE_A	.463	200	.000	.547	200	.000
COMPUTE_SN	.414	200	.000	.643	200	.000
COMPUTE_PBC	.441	200	.000	.579	200	.000

a. Lilliefors Significance Correction

Table A.41: Spearman Correlation coefficient

Correlations

			COMPUTE_DV	COMPUTE_A	COMPUTE_SN	COMPUTE_PBC
Spearman's rho	COMPUTE_DV	Correlation Coefficient	1.000	.642**	.525**	.538**
		Sig. (2-tailed)	.	.000	.000	.000
		N	200	200	200	200
	COMPUTE_A	Correlation Coefficient	.642**	1.000	.648**	.721**
		Sig. (2-tailed)	.000	.	.000	.000
		N	200	200	200	200
	COMPUTE_SN	Correlation Coefficient	.525**	.648**	1.000	.659**
		Sig. (2-tailed)	.000	.000	.	.000
		N	200	200	200	200
	COMPUTE_PBC	Correlation Coefficient	.538**	.721**	.659**	1.000
		Sig. (2-tailed)	.000	.000	.000	.
		N	200	200	200	200

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

APPENDIX B

Table B.1: Consumer Perceptions Result from Microsoft Excel 2010 for the Calculation Relative Importance index (RII)

Items	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Total	Total Number (N)	A*N	RII (%)	Ranks
DV1	660	260	120	22	5	407	200	1000	40.7	7
DV2	495	308	45	18	0	866	200	1000	86.6	3
DV3	475	272	81	16	2	846	200	1000	84.6	4
DV4	605	240	39	12	0	896	200	1000	89.6	1
DV5	540	256	66	12	0	874	200	1000	87.4	2
DV6	405	304	114	8	1	832	200	1000	83.2	5
DV7	385	248	138	30	0	801	200	1000	80.1	6

Table B.2: Attitude Factors Result from Microsoft Excel 2010 for the Calculation Relative Importance index (RII)

Items	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Total	Total Number (N)	A*N	RII	Ranks
A1	335	228	177	20	7	767	200	1000	76.7	6
A2	690	196	33	4	0	923	200	1000	92.3	1
A3	200	196	204	64	11	675	200	1000	67.5	7
A4	615	232	45	4	2	898	200	1000	89.8	2
A5	375	268	132	20	4	799	200	1000	79.9	4
A6	445	308	93	6	0	852	200	1000	85.2	3
A7	330	260	162	28	1	781	200	1000	78.1	5
TOTAL									81.36	1

Table B.3: Subjective Norm Factors Result from Microsoft Excel 2010 for the Calculation Relative Importance index (RII)

Items	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Total	Total Number (N)	A*N	RII	Ranks
SN1	480	244	105	12	2	843	200	1000	84.3	1
SN2	390	236	156	16	3	801	200	1000	80.1	3
SN3	345	300	144	14	1	804	200	1000	80.4	2

SN4	260	284	153	32	10	739	200	1000	73.9	7
SN5	340	260	150	34	0	784	200	1000	78.4	4
SN6	255	320	153	32	2	762	200	1000	76.2	6
SN7	300	276	153	30	5	764	200	1000	76.4	5
TOTAL									78.53	3

Table B.4: Perceived Behaviour Control Factors Result from Microsoft Excel 2010 for the Calculation Relative Importance index (RII)

Items	**Strongly Agree**	**Agree**	**Neutral**	**Disagree**	**Strongly Disagree**	**Total**	**Total Number (N)**	**A*N**	**RII**	**Ranks**
PBC1	300	296	153	26	2	777	200	1000	77.7	6
PBC2	285	320	162	18	0	785	200	1000	78.5	5
PBC3	405	340	87	10	0	842	200	1000	84.2	1
PBC4	220	268	168	42	12	710	200	1000	71	7
PBC5	415	292	120	2	3	832	200	1000	83.2	2
PBC6	325	352	108	22	0	807	200	1000	80.7	3
PBC7	335	332	120	18	1	806	200	1000	80.6	4
TOTAL									79.41	2

APPENDIX C

Questionnaire C.1: English Version

UNIVERSITI
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KELANTAN

Dear respondents,

I am Nur Shahanim Binti Mustafha, a final year student in Bachelor of Applied Science (Agrotechnology) with Honors at University Malaysia Kelantan. The goals for this study are to (i) determine the consumer perceptions on plant purchasing amid Covid-19 pandemic in Kelantan, and (ii) analyse the relationship between attitude, subjective norm, and perceived behaviour control among consumer on plant purchasing amid Covid-19 pandemic in Kelantan.

This questionnaire consists of five sections:

Section A: Demographic Profile of Respondents.

Section B: Consumer perceptions on plant purchasing amid Covid-19 pandemic

Section C: Attitude

Section D: Subjective norm

Section E: Perceived behaviour control

This questionnaire will take about 5 minutes to complete it. All the information is confidential and used for academic purpose only. I really appreciate for your responses and time in this research.

Thank you.

……

Nur Shahanim binti Mustafha
Faculty of Agro Based Industry,
Universiti Malaysia Kelantan,
17600 Jeli, Kelantan
Email: shah.mustafha@gmail.com

SECTION A: Demographic Profile of Respondents

Please answer the question below and tick (/) in the box provided to indicate your answer.

1	Gender	□ Male □ Female
2	Age	□ <20 years □ 20 - 29 years □ 30 – 39 years □ 40 – 49 years □ >49 years
3	Race	□ Malay □ Chinese □ Indian □ Other:
4	Education Level	□ UPSR □ SPM □ STPM □ Diploma □ Degree/ Master Degree / PhD □ Other:
5	Marital Status	□ Single □ Married □ Widowed □ Other:
6	Monthly Income	□ <RM501 □ RM501 – RM1500 □ RM1501 – RM2500 □ RM2501 – RM3500 □ >RM3500
7	Plant Purchasing Frequency	□ Never □ Once a week □ Once a month □ 2 – 3 time a month □ Once a year

SECTION B: Consumer perceptions on plant purchasing amid Covid-19 pandemic

Instruction: Please read each question and give your answer by circling the answer option that is appropriate to the scale of 1(strongly disagree) to 5 scale (strongly agree).

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	2	3	4	5

In my opinion:		1	2	3	4	5
1	Covid-19 pandemic has changed and inspired me to buy and grow my own plants					
2	Buying and owning plants can help me in ensuring a comfortable working environment					
3	Purchasing plants can help me fill my free time during Covid-19 pandemic					
4	The purchase of plants can help nursery traders in generating their income					
5	Plant purchase became a trend to consumers during the Covid-19 pandemic					
6	The Covid-19 pandemic changed the way I purchase plants by taking in the nursery to online purchases					
7	Plant can be purchased at an affordable price post covid-19 era					

SECTION C: Attitude

Instruction: Please read each question and give your answer by circling the answer option that is appropriate to the scale of 1(strongly disagree) to 5 scale (strongly agree).

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	2	3	4	5

In my opinion:		1	2	3	4	5
1	The Covid-19 pandemic has changed my plant buying habits.					
2	I know plants can give us many benefits.					
3	I often sacrifice my personal income to buy plants as a collection of plants to suit my needs.					
4	I believe there are consumers who buy plants and take care of those plants in a good way to liven up the atmosphere into the house.					
5	I plan to buy plant-based products.					
6	I am confident that buying plants such as herbal plant products					

	does not pose a risk to health.					
7	I am determined to take good care of my purchased plants before they are sold to increase my side income.					

SECTION D: Subjective Norm

Instruction: Please read each question and give your answer by circling the answer option that is appropriate to the scale of 1(strongly disagree) to 5 scale (strongly agree).

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	2	3	4	5

In my opinion:		1	2	3	4	5
1	My family members love it if I buy plants to beautify the home area.					
2	The surrounding community influenced me to buy plants and take proper care of them.					
3	Media information such as advertisements and newspapers about plants influenced me to buy plants that I liked.					
4	My friend suggested me to buy plant online during the Covid-19 pandemic.					
5	The sustainability campaign driven by the government and the private sector inspired me to buy plants in order to maintain environmental sustainability.					
6	Society made me think that the high demand in the purchase of plants allowed me to focus on the sale of the plant in order to generate my side income.					
7	The Agriculture and Farmer Entrepreneurs Carnival organized online has influenced me to buy plant-based products that have been showcased by their staff.					

SECTION E: Perceived Behaviour Control

Instruction: Please read each question and give your answer by circling the answer option that is appropriate to the scale of 1(strongly disagree) to 5 scale (strongly agree).

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	2	3	4	5

In my opinion:		1	2	3	4	5
1	It is very easy for me to handle the plants I bought.					
2	It is very easy for me to purchase plants online.					
3	I feel happy to gain knowledge about the plants I want to buy.					

4	I always buy plants even during the Covid-19 crisis.					
5	I know buying plants online has a high risk of damage to the plant.					
6	When purchasing a plant, it turned out to be difficult for me to identify the quality of the plant.					
7	I am able to expand my knowledge on the use of plants in medicine, cosmetics and others.					

Questionnaire B.2: Versi Bahasa Melayu

Responden yang dihormati,

Saya Nur Shahanim Binti Mustafha, pelajar tahun akhir dalam Sarjana Muda Sains Gunaan (Agroteknologi) dengan Kepujian di Universiti Malaysia Kelantan. Matlamat kajian ini adalah untuk (i) menentukan persepsi pengguna terhadap pembelian tumbuhan di tengah-tengah wabak Covid-19 di Kelantan, dan (ii) menganalisis hubungan antara sikap, norma subjektif, dan persepsi kawalan tingkah laku dalam kalangan pengguna terhadap pembelian tumbuhan di tengah-tengah wabak Covid- 19 di Kelantan.

Soal selidik ini mengandungi lima bahagian:

Bahagian A: Profil Demografi Responden.
Bahagian B: Persepsi pengguna terhadap pembelian tumbuhan di tengah-tengah pandemik Covid-19
Bahagian C: Sikap
Bahagian D: Norma subjektif
Bahagian E: Kawalan tingkah laku yang dirasakan

Soal selidik ini akan mengambil masa kira-kira 5 minit untuk melengkapkannya. Semua maklumat adalah sulit dan digunakan untuk tujuan akademik sahaja. Saya amat menghargai maklum balas dan masa anda dalam penyelidikan ini.

Terima kasih.

.....
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Emel: shah.mustafha@gmail.com

BAHAGIAN A: Profil Demografi Responden

Sila jawab soalan di bawah dan tandakan (/) pada kotak yang disediakan untuk menunjukkan jawapan anda.

1	Jantina	□ Lelaki □ Perempuan
2	Umur	□ <20 tahun □ 20 - 29 tahun □ 30 – 39 tahun □ 40 – 49 tahun □ >49 tahun
3	Bangsa	□ Melayu □ Cina □ India □ Lain:
4	Tahap Pendidikan	□ UPSR □ SPM □ STPM □ Diploma □ Ijazah Sarjana Muda / Ijazah Sarjana / PhD □ Lain:
5	Status Perkahwinan	□ Bujang □ Berkahwin □ Janda □ Lain:
6	Pendapatan Bulanan	□ <RM501 □ RM501 – RM1500 □ RM1501 – RM2500 □ RM2501 – RM3500 □ >RM3500
7	Kekerapan Pembelian Tumbuhan	□ Tidak pernah □ Sekali seminggu □ Sekali sebulan □ 2 – 3 kali sebulan □ Sekali setahun

BAHAGIAN B: Persepsi pengguna terhadap pembelian tumbuhan di tengah-tengah pandemik Covid-19

Arahan: Sila baca setiap soalan dan beri jawapan anda dengan membulatkan pada pilihan jawapan yang bersesuaian dengan mengikut skala 1 (sangat tidak bersetuju) hingga skala 5 (sangat setuju).

Sangat tidak setuju	Tidak setuju	Biasa	Setuju	Sangat setuju
1	2	3	4	5

Pada pendapat saya:		1	2	3	4	5
1	Pandemik Covid-19 telah mengubah dan memberi inspirasi kepada saya untuk membeli dan menanam tumbuhan sendiri					
2	Membeli dan memiliki tumbuhan dapat membantu saya dalam menjamin persekitaran kerja yang selesa					
3	Pembelian tumbuhan dapat membantu saya mengisi masa lapang semasa pandemik Covid-19					
4	Pembelian tumbuhan dapat membantu para peniaga nurseri dalam menjana pendapatan mereka					
5	Pembelian tumbuhan menjadi satu tren kepada pengguna semasa pandemik Covid-19					
6	Pandemik Covid-19 mengubah cara pembelian tumbuhan saya dengan cara mengambil di nurseri kepada pembelian atas talian					
7	Tumbuhan boleh dibeli dengan harga yang berpatutan selepas era covid-19					

BAHAGIAN C: Sikap

Arahan: Sila baca setiap soalan dan beri jawapan anda dengan membulatkan pada pilihan jawapan yang bersesuaian dengan mengikut skala 1 (sangat tidak bersetuju) hingga skala 5 (sangat setuju).

Sangat tidak setuju	Tidak setuju	Biasa	Setuju	Sangat setuju
1	2	3	4	5

Pada pendapat saya:		1	2	3	4	5
1	Pandemik Covid-19 telah mengubah tabiat pembelian tumbuhan saya					
2	Saya tahu tumbuhan dapat memberikan banyak manfaat kepada kita					
3	Saya sering mengorbankan keuntungan peribadi saya untuk membeli tumbuhan sebagai koleksi tanaman sesuai dengan keperluan saya					
4	Saya percaya ada pengguna yang membeli tanaman dan menjaga tanaman itu dengan cara yang baik untuk menghidupkan suasana ke dalam rumah					
5	Saya merancang untuk membeli produk berasaskan tumbuhan					
6	Saya yakin membeli tumbuhan seperti produk tumbuhan herba tidak berisiko terhadap kesihatan					
7	Saya bertekad untuk menjaga tanaman yang dibeli dengan baik sebelum dijual bagi menambah pendapatan sampingan					

BAHAGIAN D: Norma subjektif

Arahan: Sila baca setiap soalan dan beri jawapan anda dengan membulatkan pada pilihan jawapan yang bersesuaian dengan mengikut skala 1 (sangat tidak bersetuju) hingga skala 5 (sangat setuju).

Sangat tidak setuju	Tidak setuju	Biasa	Setuju	Sangat setuju
1	2	3	4	5

Pada pendapat saya:		1	2	3	4	5
1	Ahli keluarga saya suka jika saya membeli tumbuhan untuk mengindahkan kawasan rumah					
2	Masyarakat sekeliling mempengaruhi saya untuk membeli tumbuhan dan menjaganya dengan baik					
3	Maklumat media seperti iklan dan surat khabar mengenai tumbuhan mempengaruhi saya membeli tumbuhan yang saya suka					
4	Rakan saya mencadangkan saya membeli tumbuhan secara atas talian semasa pandemik Covid-19					
5	Kempen kelestarian yang digerakkan oleh kerajaan dan swasta memberi inspirasi kepada saya untuk membeli tumbuhan supaya dapat mengekalkan kelestarian alam sekitar					
6	Masyarakat membuat saya berfikir bahawa permintaan tinggi dalam pembelian tumbuhan membolehkan saya memberi tumpuan kepada penjualan tumbuhan itu bagi menjana pendapatan sampingan saya					
7	Karnival Pertanian dan Usahawan Tani yang dianjurkan secara atas talian telah mempengaruhi saya untuk membeli produk berasaskan tumbuhan yang telah dipamerkan oleh kakitangan mereka					

BAHAGIAN E: Kawalan tingkah laku

Arahan: Sila baca setiap soalan dan beri jawapan anda dengan membulatkan pada pilihan jawapan yang bersesuaian dengan mengikut skala 1 (sangat tidak bersetuju) hingga skala 5 (sangat setuju).

Sangat tidak setuju	Tidak setuju	Biasa	Setuju	Sangat setuju
1	2	3	4	5

Pada pendapat saya:	1	2	3	4	5

1	Amat mudah untuk saya mengendalikan tumbuhan yang saya beli					
2	Amat mudah untuk saya membeli tumbuhan secara atas talian					
3	Saya merasa senang untuk memperoleh pengetahuan mengenai tumbuhan yang ingin dibeli					
4	Saya selalu membeli tumbuhan walaupun semasa krisis Covid-19					
5	Saya tahu pembelian tumbuhan atas talian mempunyai risiko terhadap kerosakan yang tinggi kepada tumbuhan itu					
6	Semasa membeli tumbuhan, ternyata sukar untuk saya mengenal pasti kualiti tumbuhan itu					
7	Saya dapat mengembangkan pengetahuan saya mengenai penggunaan tumbuhan dalam perubatan, kosmetik dan lain-lain					

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