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FACTORS INFLUENCING THE SUPPLY OF PINEAPPLES IN JOHOR, MALAYSIA

By

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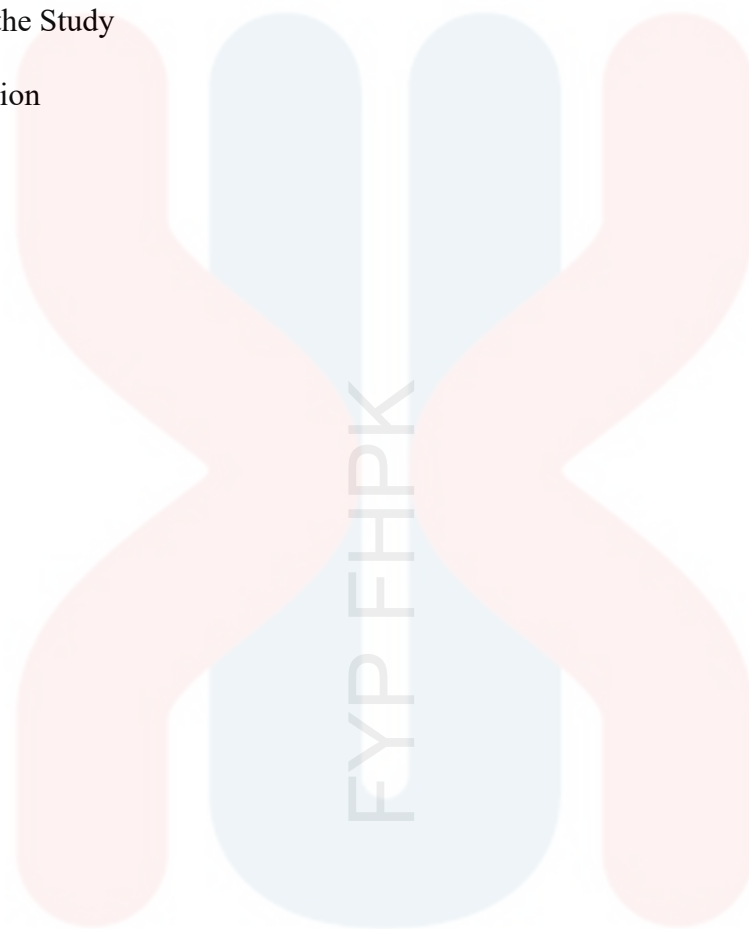
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LIST OF ABBREVIATIONS

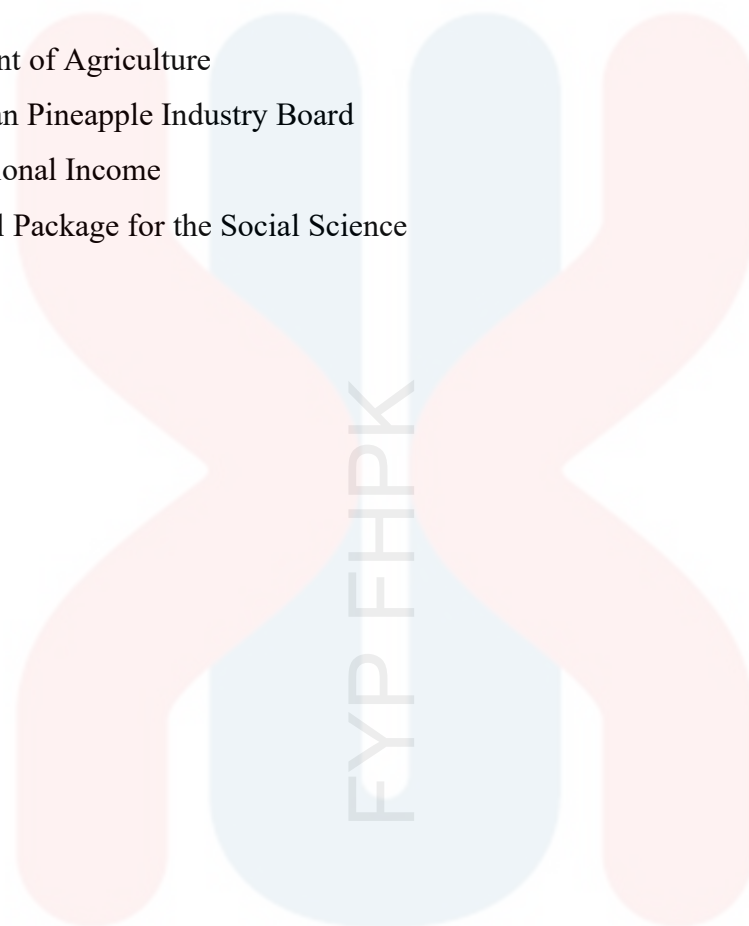
Abbreviations

DoA - Department of Agriculture

MPIB - Malaysian Pineapple Industry Board

GNI - Gross National Income

SPSS - Statistical Package for the Social Science



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ABSTRACT

The purpose of this study was to examine at the factors influencing pineapple supply in Johor, Malaysia. The independent variables in this study were farming experience, farm size, price of pineapple and cost of inputs, while the dependent variable was the quantity of pineapple supplied in Johor, Malaysia. This study had four objectives: To investigate the factor farming experience in relation to the quantity of pineapple supplied in Johor, Malaysia, to analyze the farm size in relation to the quantity of pineapple supplied in Johor, Malaysia, to investigate the factor price of pineapple in relation to the quantity of pineapple supplied in Johor, Malaysia, and to investigate the factor cost of inputs in relation to the quantity of pineapple supplied in Johor, Malaysia. The research tool for data collection was a questionnaire, and a quantitative research technique was utilized. A baseline sample of 103 respondents was gathered and evaluated for this study. A Google form was used for data collection. The results show that all the independent factors (farming experience, farm size, price of pineapple and cost of inputs) examined in this study have significant relationship with the dependent variable (quantity of pineapple supplied in Johor Malaysia) among Pontian farmers. This research will aid in determining the factors influencing the quantity of pineapple supplied in Johor Malaysia, as well as providing a greater insight and knowledge of farming experience, farm size, price of pineapple, and cost of inputs.

Keywords : quantity of pineapple, farming experience, farm size, price of pineapple, cost of input

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CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

This study focused on the factors influencing the supply of pineapple in Johor, Malaysia. It began with the chapter's introduction, which was followed by the study's background, problem statement, objectives, research question, its significance of the study, the scope of the investigation, the significance of research, and a chapter summary.

1.2 BACKGROUND OF THE STUDY

The pineapple (*Ananas comosus*) is the most economically vital plant of the bromeliad household and is a tropical plant suitable for eating fruit. The pineapple is native to South America, the place it has been cultivated for lots of years. When it used to be added to Europe in the seventeenth century, the pineapple grew to become a vital cultural image of prosperity. Since the 1820s, the pineapple has been grown commercially in greenhouses and on severe tropical farms. The pineapple is a small shrub with character plant life that mixes to structure a multi-fruit. The plant is frequently propagated through a scion at the pinnacle of the fruit or with the aid of an aspect department and matures in about one year.

Pineapple is a perennial herbaceous plant that can develop up to 1.5 m tall. The plant has thick, waxy leaves and is short and stout. When it bears fruit, it typically types up to 200 flowers, though some large-fruited sorts may additionally have more. At flowering, the fruits of the exclusive plants mix to shape a multi-fruit. After the first fruiting, facet branches (called 'offshoots' via growers) structure in the leaf axils of the foremost stem. These offshoots may additionally be removed for propagation or may additionally structure extra fruit on the predominant plant. Commercially produced offshoots sprout round the base. It has 30 to one hundred cm long, thin, fleshy, trough-shaped leaves surrounded by means of a stout stem with sharp spines on the edges. The axis elongates and thickens throughout the first year of growth, bearing a number of leaves in tight spirals. After 12 to 20 months, the stem grows into a spike-like inflorescence up to 15 cm long with over one hundred spirally arranged, tentative blooms, each crowned by a bract. The ovaries ripen into berries that mix to structure a large, compact fruit with several petals. The pineapple fruit is generally divided into two interlocking spirals, with eight in one path and thirteen in the other, every spiral representing a Fibonacci number.

The pineapple has a long and fascinating history. It was first mentioned in 1568, when French explorer and translator André Thevet wrote about it in his book *The New Found World, or Antarctica*. He referred to it as the hoyriri, a fruit that was grown and eaten by the Tupi people of South America. Since then, the pineapple has become a popular ingredient in many dishes around the world. Its sweet taste and vibrant colour make it an ideal addition to any meal. Whether you eat it fresh or use it to enhance your favourite recipes, the pineapple is sure to bring some tropical flavour into your life. The Tupi language is a fascinating and ancient language that has been translated into English. In one of its earliest translations, a fruit was described as 'Nana made in the manner of a Pineapple.' This description was made possible by the use of another Tupi word, nanas, which can be translated to mean 'excellent

fruit.' Through this example, we can see how much knowledge and understanding can be gained from the Tupi language. The term *Ananas comosus* is derived from the Latin phrase "ananas" which means "excellent fruit". This usage was adopted by many European languages and eventually led to the scientific binomial nomenclature for this unique species of pineapple. The second word, *comosus*, refers to the stem of the plant, which is a distinguishing feature as compared to other species. This naming convention has been accepted and used in various scientific circles as it provides an easy way to identify and classify this fruit. Purchased referred to the fruit as pineapple in English in 1613, but the first mention of the word pineapple in the Oxford English Dictionary was by an English writer, Mandeville in 1714.

The wild plant is native to the watersheds of the Paraná and Paraguay rivers in southern Brazil and Paraguay. Its domestication is unknown, but it spread throughout South America as a cultivated plant. Archaeological evidence of its use dates from 1200 to 800 BC (3200-2800 BP) in Peru and from 200 BC to 700 AD (2200-1300 BP) in Mexico, where the Mayas and Aztecs cultivated it. By the end of the 14th century, the pineapple was widely cultivated and a staple food of Native Americans. Columbus was the first European to discover the pineapple, on November 4, 1493, in Guadeloupe. Around 1550, the Portuguese brought the fruit from Brazil to India. The 'Red Spanish' variety was also brought to the Philippines from Latin America by the Spaniards, and as early as the 17th century, the pineapple was introduced to the Philippines.

1.3 PROBLEM STATEMENTS

Pineapple is regarded as an economically significant horticulture product with significant health advantages and attractive prospective for sale in the worldwide market for monetary earnings, resulting to increased farmer revenue. (Fawole, 2008; Joy, 2010; Fakayode et al., 2012).

However, the pineapple market in Malaysia was decreasing day by day. This is because of Malaysia experiencing fierce competition with foreign countries such as Thailand, and Myanmar. Despite the ever-increasing worldwide demand for pineapple fruit and Malaysia's tropical environment and key strategic location, Malaysia's contribution to the international pineapple marketplace is fairly modest, accounting for only 2% of global output, compared to Thailand and the Philippines (FAO, 2013; Agrofood Statistics, 2013). Because a country's productivity level has a big influence on its competitiveness in the global market, it is possible to say that Malaysian pineapple's attractiveness within the international fruit market is deteriorating.

Previous research on the pineapple industry in Malaysia centered mainly on chemical factors. It's about the tools that they used to procedure the pineapple. For example, they need to use the chemical fertilizer for the fruit planting session. The contemporary science for cultivation of pineapple on peat seems sufficient though the incapacity to mechanise on this kind of soil is an extreme downside in the face of labour scarcity and rises in different costs. There is a rising pastime in planting sparkling fruit sorts on mineral soil to achieve higher exceptional produce. The modern lookup thrusts are in improvement of new sorts with early bearing traits and excessive sugar for canning in herbal juice, agronomic practices on mineral soil protecting excessive density, timing of hormoning, fertilizer prices and functions and administration of mealybug closterovirus purple wilt. Research center of attention will

additionally be given to postharvest dealing with export of sparkling pineapples and in product improvement such as minimal process.

However, several factors are involved in the decline of the pineapple market. One of them is the limited number of farmers. Many rural farmers in Malaysia suffer from the economy in light of the pineapple's market. It has proven when the whole country must witness the cases of fruit market decline, especially the pineapple now in 2022. This issue should be highlighted because it clearly shows that the collapse of the pineapple market is a big issue and it can have a bad impact for the national economy.

The research's findings are beneficial to farmers, merchants, and service providers involved in the production and sale of fruits in the study region. Furthermore, the study's findings offer policymakers with a comprehensive perspective of the market system that can be utilized to build fruit marketing development programmed and increase the efficiency of the fruit marketing system. Furthermore, the work might be utilized as a foundation for future research.

1.4 RESEARCH OBJECTIVES

- I. To examine the farming experience factor towards the quantity of pineapple supplied in Johor, Malaysia.
- II. To analyze farm size towards the quantity of pineapple supplied in Johor, Malaysia.
- III. To investigate the price of pineapple factors towards the quantity of pineapple supplied in Johor, Malaysia.
- IV. To examine the cost of inputs factors towards the quantity of pineapple supplied in Johor, Malaysia.

1.5 RESEARCH QUESTIONS

The following are the research question of the study that had been held and conducted:

- V. What is the farming experience factor towards the quantity of pineapple supplied in Johor, Malaysia?
- VI. What is farm size towards the quantity of pineapple supplied in Johor, Malaysia?
- VII. What is investigated is the price of pineapple factors towards the supply of pineapple in Johor, Malaysia?
- VIII. What is the cost of inputs factors towards the quantity of pineapple supplied in Johor, Malaysia?

1.6 SIGNIFICANCE OF THE STUDY

Although pineapple is an important national commodity, the study and comparison of the physical, chemical, biological, and organoleptic characteristics of commercial varieties has not been completed. The determination and comparison of physicochemical properties, bioactive compounds, antioxidant capabilities, enzymatic activity and sensory characteristics of different commercial pineapple cultivars in Malaysia was the objective of this study. The objective of this study is to inform consumers about the nutritional value of different commercial pineapple cultivars, facilitate the marketing of cultivars with known fruit qualities and potencies, increase pineapple consumption based on their nutritional value, and provide useful information for future hybridization among these cultivars.

1.7 DEFINITION OF TERM

1.7.1 SUPPLY

Supply is a basic economic term that refers to the total quantity of a particular product or service to which customers have access. Shown in a diagram, supply can refer to the quantity available at a single price or the quantity available over a range of prices. This is directly related to the demand for an item or service at a given price; if the price increases, all other things being equal, producers' supply will increase as all firms seek to maximise profits. (Will Kenton, 2022).

1.7.2 TROPICAL FRUIT

Tropical fruits are fruits that thrive in tropical climates. The environment in this region is ideal for growing these fruits. These fruits are unique in terms of taste, colour, aroma and size. Different fruits have different flavours. The hot and humid climate in this region benefits the fruit trees. Mango, banana, pineapple, jackfruit, date, kiwi and many other tropical fruits are popular and well known. These fruits have different aromas, hues and tastes. Some are seasonal while others are available all the time. (Lora J Fusco, 2021).

1.7.3 QUANTITY SUPPLY

The range of products or services that suppliers produce and promote at a given market charge is known as the quantity supplied. Price fluctuations decide how a great deal supply producers absolutely deliver to the market, subsequently the supply quantity differs from the proper supply quantity. The rate elasticity of supply describes how supply fluctuates in response to rate changes. (Will Kenton, 2021).

1.7.4 PRICE

Price is the value or money that customers give up in return for a particular item that meets their needs and wants. Prices are an economic mechanism for distributing offers to customers in the market. They also serve as an indicator of how much a supply is in demand and how much it is offered or available. A product's price is the overall value of the supply, which includes the cost of raw materials and services needed to manufacture the supply. The pricing of a service takes into account all the factors that contribute to making the service what it is. (Siddhi Kamble, 2022).

1.7.5 GLOBAL MARKET

Global markets are markets that are able to exchange goods and services across national borders and that encompass the whole world or almost all the people in the world. In simple terms, all activities that take place in the global market are called total market activity because they take place everywhere in the world. (Gregory Hanson, 2022)

1.7.6 EXPERIENCE

Experience is defined as information or insight gained through practical participation in an action or event. This is usually different from the kind of theoretical knowledge gained through reading books or obtaining factual information. (Yogapedia, 2022)

1.8 SUMMARY

This study looked at the elements that influence pineapple supplied in Johor, Malaysia. The current study's research background is described. The chapter then highlights the issues that prompted the researcher to perform this study as well as the significance of fixing the problem

for others. Before ending the chapter, the researcher gives the four study objectives, four research questions, and a glossary.



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CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

The preceding parts of this topic explored what factors influence pineapple supply in Johor, Malaysia. In contrast, this chapter examines the literature review, where farm experience, pineapple price, farm size, and input cost are independent factors, and pineapple quantity supplied is the dependent variable. This chapter includes covers hypothesis development and the conceptual framework framework, as well as a summary of the previous chapter.

2.2 Literature Review

A literature review is a scholarly work that exhibits knowledge and comprehension of the academic literature on a specific topic in a specific context. A literature review involves an in-depth assessment of the content, which is the reason why it is called a literature review instead of a literature report.

2.2.1 Production of Pineapple in Malaysia

Pineapple is a former industrial crop that has been grown in Malaysia for more than a century. Farmers earn notably from pineapple growing, particularly if an excessive density of lifestyle is installed on the farm and cultivars with steady output and sturdy disorder resistance are chosen. The Department of Agriculture (DoA) stated that 314,627 metric tonnes of pineapple had been produced in 2019 for the year 2022. Table 1 suggests the place underneath cultivation, manufacturing and value of pineapple production.

Table 2.1: Planted area and harvested area, production and value of production of pineapple in Malaysia, 2019-2021.

Year	Planted Area (Ha)	Harvested Area (Ha)	Percentage of Harvested Area (%)	Production (Mt)	Value of Production (RM'000)	Average Yield (Mt/Ha)	Potential Production (Mt/Ha)
2019	13,274	10,928	82	314,627	621,389	28.8	62.0
2020	14,071	11,316.85	80.40	323,420.45	570,028.55	28.6	62.0
2021	16,203.72	11,616.28	71.69	375,423.24	675,761.84	32.32	62.0

Source: DoA (2019, 2020 & 2021)

Table 2 shows the specific statistical data on pineapple production in Malaysia by state in 2015. Pineapple production in Peninsular Malaysia increased by 289,443 million tonnes from 2018 to 2019.

Table 2.2: Hectareage, Production and Value of Production of Pineapple by State, Malaysia, 2019.

States	Hectareage (Ha)	Harvested Area (Ha)	Production (Mt)	Value of Production (RM'000)
JOHOR	7,482.68	6,849.44	227,785.21	449,875.79
KEDAH	715.06	588.59	7,027.86	13,880.03
KELANTAN	174.45	93.83	3,303.23	6,523.88
MELAKA	31.17	20.51	764.71	1,510.30
NEGERI SEMBILAN	65.27	45.27	2,125.70	4,198.25
PAHANG	606.31	531.18	4,239.00	8,372.03
PERAK	181.28	111.89	4,631.71	9,147.62
PERLIS	3.46	-	-	-
PULAU PINANG	206.49	153.49	6,172.38	12,190.45
SELANGOR	498.78	393.57	13,744.00	27,144.39
TERENGGANU	124.90	90.17	3,665.10	7,238.58
PENINSULAR MALAYSIA	10,089.85	8,877.93	273,458.89	540,081.32
SABAH	1,021.90	879.80	12,320.90	24,333.78
SARAWAK	2,162.70	1,170.50	28,847.30	56,973.42
W.P. LABUAN	-	-	-	-
MALAYSIA	13,274.45	10,928.23	314,627.09	621,388.51

Source: DoA (2019)

2.2.2 Export of Fresh Pineapple

Malaysian fresh pineapple exports accelerated between 2016 to 2020 due to accelerated demand from China and the Middle East, enormously for MD2 and indigenous cultivars such as N36 and Josapine. The Minister of Agriculture and Food Industry, Datuk Seri Ronald Kiandee, remarked that China is an export market with large achievable and strong demand for exceptional pineapples such as MD2. He forecasts that fresh pineapple will cover 17,228 hectares, or 9.5% of the country's whole fruit-growing area, by 2020. He introduced that the pineapple producing place is in Peninsular Malaysia's south, and that Sabah is the third biggest developing state, accounting for 6.1% of Malaysia's pineapple acreage.

2.2.3 The Pineapple Market in Malaysia

The pineapple sector contributes considerably to the country's socioeconomic growth by increasing local farmers' income through revenue generation. It encourages the monetary increase of the country as well as the growth of different economic sectors like as transportation, packaging, and different value-added industries, especially in Johor. With an anticipated output quantity of 263,367.58 metric tonnes in 2021, Johor was once the highest pineapple producer.

Table 2.3: Top Producing State in Malaysia for Pineapple Production, 2021

State	Hectarage (Ha)	Production (Mt)
Johor	10,211.92	263,367.58
Sarawak	2,049.20	26,996.10
Pahang	1,107.36	29,631.77

Source: Fruit Crops Statistic (DoA 2021)

According to Raziah (2009), many reasons contributed to the decline of the Malaysian pineapple sector. It has been cautioned that the deterioration of peat soil first-rate due to many years of pineapple cultivation has affected crop productivity. The decline in pineapple manufacturing on peat soils used to be most possibly prompted by using the nematode species *Paratylenchus*. Detailed surveys of the nematode populace in the soil and roots of pineapple plant life at distinctive boom degrees from quite a few affected farms printed a sizable incidence of *Paratylenchus* species.

Peat soils provide magnificent monetary advantages to the communities that personal them. The extracted peat is used as compost for horticulture. In industrial agriculture, it is rather valued for its excessive water-holding potential and air movement. Peat is used as a gasoline supply for electricity production. It is additionally on hand in the structure of briquettes for heating homes in bloodless climates. Peat-lands have been drained and are now used for agriculture and forestry.

According to Mohd Farhaan Shah (2018), Malaysia needs at least 3,000 ha of greater land for MD2 pineapple cultivation to meet domestic and international demand. Datuk Salahuddin Ayub, Minister of Agriculture and Agro-based Industries, noted that currently fully 2,000 ha of land in the country is used for pineapple cultivation, most of which is in Johor. Pineapples are exported from MD2 to over 13 countries, including Oman, Iran, the United Arab Emirates, Turkey, Singapore, and South Korea.

2.3 HYPOTHESIS

H1 : There is a significant relationship between farming experience and the quantity of pineapple supplied in Johor, Malaysia.

H2 : There is a significant relationship between the farm size and the quantity of pineapple supplied in Johor, Malaysia.

H3 : There is a significant relationship between the price of pineapple and the quantity of pineapple supplied in Johor, Malaysia.

H4 : There is a significant relationship between cost of inputs and the quantity of pineapple supplied in Johor, Malaysia.

2.4 CONCEPTUAL FRAMEWORK

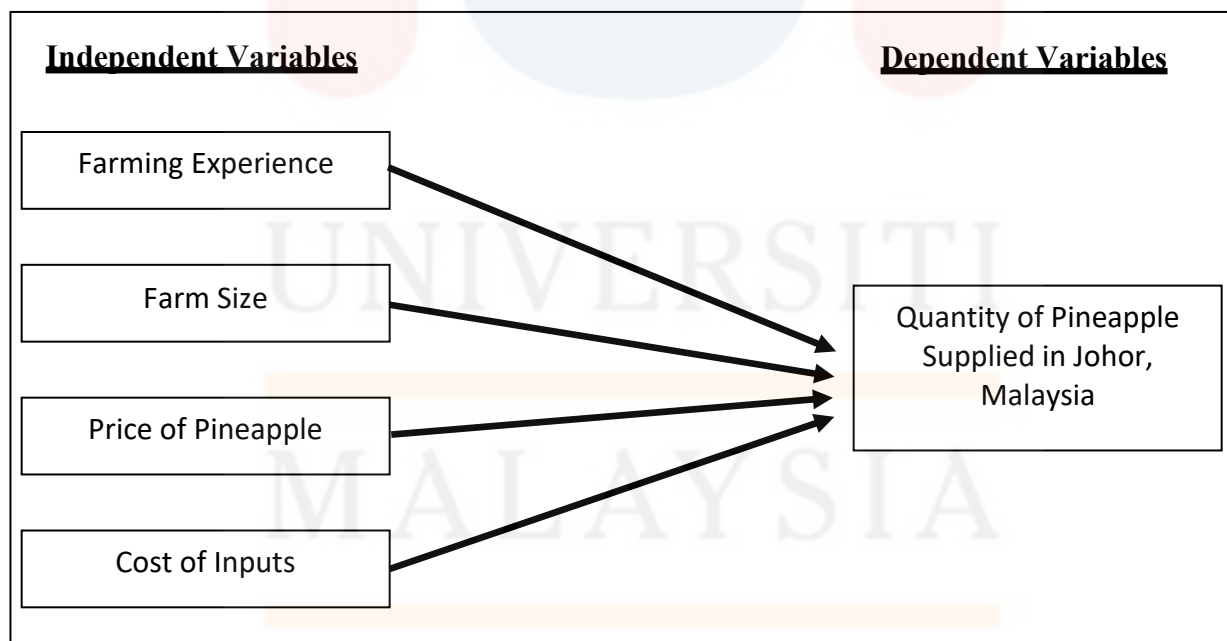


Figure 2.1 : The conceptual framework of the study adopted.

Figure 1 depicts the study's recommended conceptual framework model. The factors include: farming experience, price of pineapple, farm size, and cost of inputs. These proposed are for the independent variable (IV) meanwhile the quantity of pineapple supplied as the dependent variable (DV).

2.5 SUMMARY

This chapter discusses the pineapple by economic, country's position and awareness. The hypothesis and conceptual framework are also examined in this chapter..

CHAPTER 3

METHODOLOGY

3.1 INTRODUCTION

This chapter goes through the research that was used to carry out this investigation. This chapter also includes information on the population, sample size, sampling procedure, data collecting, research instrument, and data analysis, as well as a chapter summary.

3.2 RESEARCH DESIGN

The creation of circumstances for information retrieval objectives in a way that blends the significance of the research objectives with economics and technology is known as research design. Research design is the collection of survey designs, structures, as well as strategies to ensure that research questions are answered while managing variance (Jahoda, Deutch, & Cook, 2016). Research designs not only predict and describe the seemingly myriad of decisions involved in data collection, processing, and analysis, but also provide a logical basis for these conclusions (Henry Manheim, 2016). This study uses a quantitative method. The design of this study can be divided into three types: descriptive, exploratory and causal. The project investigates why. The goal of this research is to understand how the connection among dependent and independent factors affects current norms together with assumptions

A cross-sectional technique was used to collect data for this investigation. This type of study is beneficial because it gathers information about correlations between factors at a specific moment in time. Surveys can be utilized for this purpose because they are relatively cheap and take very little time.

The major data gathering strategy in this study was a questionnaire survey. Surveys are generally considered a reliable and effective method of gathering quantitative information

from large populations in a brief period of duration. In addition, self-administered questionnaires can quickly collect a large amount of information from many respondents without the need for observers. Therefore, questionnaires will be used to collect data for this study.

3.3 TARGET POPULATION

The word "population is a collection of individuals, occurrences, or things that are fascinating about which researchers want to learn more (Kumar, 2013; Memon et al., 2020). Therefore, Pontian farmers were picked at random from a list of registered pineapple farmers in Pontian, Johor, by the Malaysian Pineapple Industry Board (MPIB).

The fast increase of the world populace and growing purchaser attention of the fitness advantages of fruits have led to a global extend in demand for fruits (Reid and Buisson, 2001; Sabbe et al., 2008). This advancement generated an enormous chance to raise the fruit zone's contribution to gross national income (GNI) and improving incomes for farmers. Pineapple represents a strategically placed fruit among all fruits due to the alternate is aimed to industrialized nation such as Japan, the United States, and the European Union. (Coveca, 2002)

3.4 SAMPLE SIZE

A sample is a group of respondents chosen as most representative of the general population. To get an accurate picture or improve confidence, sample size is critical. Sample size helps to understand a group of individuals selected from the wider community that is believed to accurately reflect the population under study. Sample size is usually determined by population. 103 of pineapple farmers will be chosen through random sampling from the Malaysian Pineapple Industry Board (MPIB) listing of registered pineapple farmers in

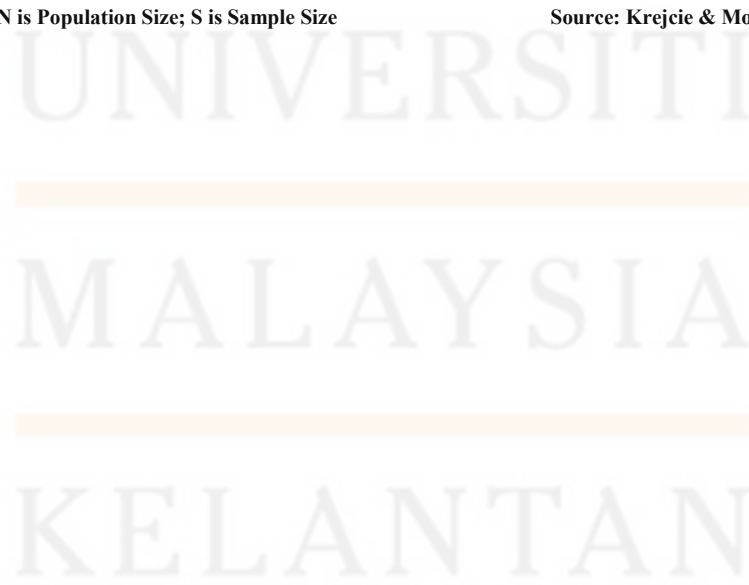
Pontian, Johor. The study sample (n=140) was determined as in accordance with Krejcie and Morgan (1970) to obtain an appropriate sample size.

Table 3.1: Table for Determining Sample Size of a Known Population

N	S	N	S	N	S	N	S	N	S
10	10	100	80	280	162	800	260	2800	338
15	14	110	86	290	165	850	265	3000	341
20	19	120	92	300	169	900	269	3500	346
25	24	130	97	320	175	950	274	4000	351
30	28	140	103	340	181	1000	278	4500	354
35	32	150	108	360	186	1100	285	5000	357
40	36	160	113	380	191	1200	291	6000	361
45	40	170	118	400	196	1300	297	7000	364
50	44	180	123	420	201	1400	302	8000	367
55	48	190	127	440	205	1500	306	9000	368
60	52	200	132	460	210	1600	310	10000	370
65	56	210	136	480	214	1700	313	15000	375
70	59	220	140	500	217	1800	317	20000	377
75	63	230	144	550	226	1900	320	30000	379
80	66	240	148	600	234	2000	322	40000	380
85	70	250	152	650	242	2200	327	50000	381
90	73	260	155	700	248	2400	331	75000	382
95	76	270	159	750	254	2600	335	1000000	384

Note: N is Population Size; S is Sample Size

Source: Krejcie & Morgan, 197



3.5 SAMPLING METHOD

Sampling method, also known as sampling methodology, is the study of a population by obtaining information and interpreting that information. (Unacademy, 2022) The first step in the process of collecting data is to clearly define the demographics of the desired population. The group of a nation is the total number of people that live there. The second step is the sample frame selection. A frame of reference for sampling is a set of real examples in which to draw a sample. The frame of the sample needs to be representative of the population. The following step is to select a sample technique. Sample is commonly utilised for reaching conclusions regarding a sample or to apply a previously established hypothesis. In general, sampling processes are classified as either probability or random, or as non-probability or non-random. The fourth step is to calculate the sample size. A random sample must have an acceptable size so that it can be generalized and to avoid sampling error or bias. The fifth step is data collection. The next stage is to gather data after selecting the target population, sampling frame, sampling process, and sample size. Response rate testing is the final stage of sample collection. The number of people that volunteered to participate in this study is referred to as the response rate. These are excerpts from the original sample.

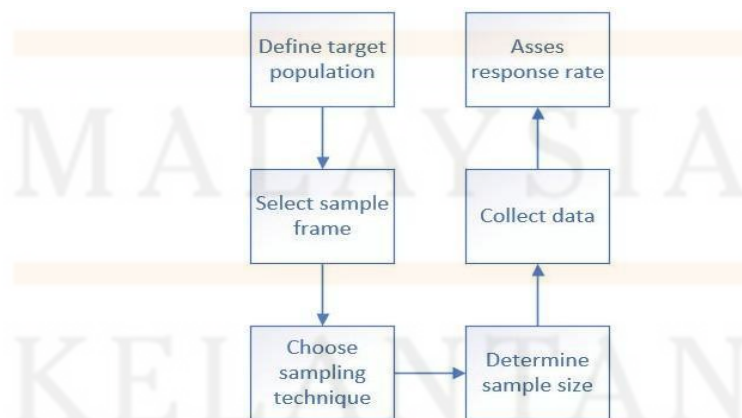


Figure 3.1: Sampling Process Steps

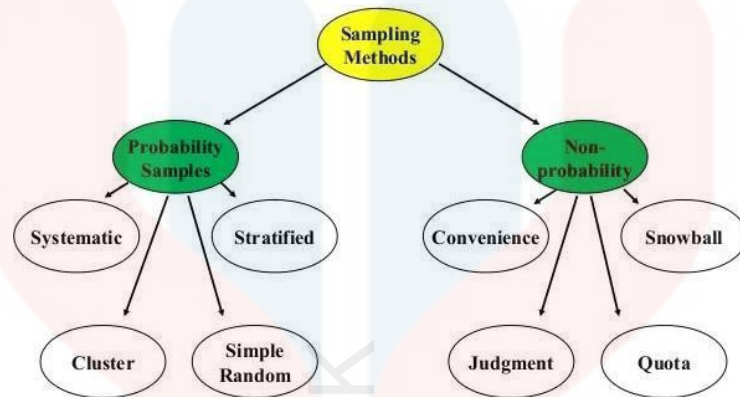


Figure 3.2: Sampling Method

3.5.1 Sampling Frame

According to P.W.West (2016), a sampling frame defines sampling devices and their areas in a population. It may also include a list of sample units or a map based entirely on the population location where the sampling unit may be viewed. A non- probability sample is more suitable for this study because internet research is becoming more popular as researchers can reach millions of respondents online by using online panels. Despite concerns, research shows that non-probability sampling performs as well or better than probability sampling when appropriate techniques are used to overcome its limitations. (Lamm, 2019)

3.5.2 Sampling Technique

Throughout this investigation, a non-probability sample has been utilized. The research is carried out quantitatively. The study's goal is to find an ensemble variable that is representative of the overall population. Random sampling was utilized in this investigation since it is easy and inexpensive.

3.6 DATA COLLECTION

Data collection is the process of collecting, measuring, and interpreting accurate study results using verified and defined procedures. The researcher can evaluate the hypothesis using the data gathered. The first and most significant stage of research, regardless of the topic of study, is data collecting. Questionnaires were employed to collect data in this investigation. A questionnaire is an information collection approach in which respondents answer a collection of questions. Additionally, this type of survey is often less expensive than other methods and is easy to monitor due to standardization. The researchers picked this strategy because it was an efficient way a successful method to gather info and data from an extensive number of respondents in the study.

3.6.1 Pilot Study

Good research with applicable experimental design and correct implementation is required to gain outstanding results. A feasibility evaluation is very useful in this regard earlier than undertaking the most important study. A pilot study is the initial phase in the basic investigation process, where it is frequently a minor finding which helps in the design and modification of the greater comprehensive investigation. In giant medical trials, pilot or small research frequently precede the most important finding to analyze its effectiveness. Before beginning a pilot study, researchers ought to have a correct perception not solely of the reason and question of the study, but also of the experimental methodology and timeline. Researchers recognise the principal research method through the pilot study, which assists them in selecting the most suitable research approach to address the research queries in the main investigation. (Jun Yong, 2017).

Before a full-scale study can begin, a pilot study ought to be performed to consider

the feasibility of the project. This includes gathering data about the methods that will be used throughout the major study (Junyong, 2017). A survey is administered completely to local pineapple farmers in Malaysia. The pilot study's findings are then used to create an actual survey or field study.

3.6.2 Procedure for distributing questionnaire

Most surveys used to be conducted in person, by telephone, or by mail. While older survey methods are still used, most of today's surveys are digital because almost everyone is online these days. According to the Pew Research Center (2014), the number of Internet surveys has increased significantly over the past decade because the cost of conducting web surveys is low compared to other methods. A questionnaire was distributed using Google Forms because it is cheaper than paper surveys. The researchers used Google Forms because it is quick and easy to send requests to a large number of people in Malaysia. Google Forms was chosen because the cost per survey response is lower compared to other options such as mail or telephone surveys.

Google Form is the perfect tool for creating self-administered online questionnaires. With this platform, researchers can quickly and easily design a survey and share it with respondents through various electronic channels such as WhatsApp groups, Instagram and Facebook pages. With Google Form, researchers can cost-effectively gain valuable insights into their target audience without sacrificing accuracy or quality.

3.7 RESEARCH INSTRUMENT

These are data collection policies. Research instruments are tools used to collect data. This includes questionnaires, interviews, observations and readings. Basically, researchers

must ensure that the chosen tool is effective and reliable. The significance and reliability of each research project depends largely on the suitability of the instrument. Whichever method is used to collect data, it must be critically assessed to what extent it delivers the desired results (Munir, 2017).

As mentioned earlier, data in this study will be collected through questionnaires. As usual, the questionnaire was divided in three parts: Part A comprises demographic information, and Part B comprises information regarding independent variables: farming experience, pineapple price, farm size, and input costs. The final section of the questionnaire dealt with the study's dependent variable, quantity of pineapple supplied in Johor, Malaysia.

In addition, sections B and C use a 5-point Likert scale: 1 - strongly disagree, 2 - disagree, 3 - neutral, 4 - agree, 5 - strongly agree.

Table 3.2: 5-Point Likert Scale

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

Source: Mark Bounthavong (2019)

3.8 DATA ANALYSIS

The technique of employing data and figures to address a research problem is known as data analysis. It's vital in providing answers to the research question, as well as important aspects of interpreting the data that results from analyzing the data. Raw data requires an in-depth study before any conclusions can be drawn. Results of this analysis must be applied to

create the final outcome (Ashirwadam, 2014).

3.8.1 Statistical Package for the Social Sciences (SPSS)

SPSS, which stands for Statistical Package for Social Sciences, is a prominent statistical analysis software package. Due to its user-friendly graphical interface, it can convert any information into tabular reports with charts and distribution graphs (Lani, 2021).

3.8.2 Descriptive Analysis

Descriptive statistics are particularly important because they provide an easy overview of information in numbers and graphs. Descriptive statistics, in particular, is a technique for collecting data, processing data, describing and analysing all data. The most important aspect of descriptive statistics is that they express facts in the structure of data and aid in data understanding. In descriptive statistics, there are three important measurements. It is a central tendency measure, a variation measure, and a role measure. (Kurniawan, 2022).

3.8.3 Reliability Analysis (Cronbach's Alpha)

Cronbach's Alpha is a number used to assess the reliability of scales or questions on a test. It's one way to determine the consistency of a measurement, and higher Cronbach's Alphas indicate a higher degree of consistency (Cag5Fk, 2015).

Table 3.3: Cronbach's Alpha

Range for Cronbach's Alpha	Strength of Internal Consistency
< 0.6	Poor
0.6 to <0.7	Moderate
0.7 to < 0.8	Good
0.8 to < 0.9	Very Good
0.9	Excellent

Source: Hejase & Hejase (2012)

3.8.4 Pearson Correlation Coefficient Analysis

The Pearson correlation coefficient, abbreviated r , is a value ranging from -1 to 1 that reflects the significance and direction of a linear relationship between two variables. It is the most often used method for calculating a linear correlation and normally spans from -1 to 1. This number can also indicate whether the slope of a linear regression line is positive or negative. Positive r values must always result from positive slopes, and negative r values must always result from negative slopes. This can be verified by Turney, who states this fact in a public thesis (2022).

Table 3.4: Rules of Thumb about Correlation Coefficient

Coefficient Range	Strength of Association
± 0.91 to ± 1.00	Very strong
± 0.71 to ± 0.90	High
± 0.41 to ± 0.70	Moderate
± 0.21 to ± 0.40	Small but definite relationship
± 0.00 to ± 0.20	Slight, almost negligible

Source: Hair Jnr, Money, Samouel (2007)

3.9 SUMMARY

This chapter reviewed the research design, target population, sample size, sampling procedure, data collection, research tools, and data analysis approach used to carry out this research.

CHAPTER 4

RESULTS AND DISCUSSION

4.1 INTRODUCTION

This chapter included reliability analysis, respondent demographic information, descriptive evaluation, and the Pearson value analysis. The study's findings were acquired from 103 respondents. IBM SPSS Statistics version 28 was implemented to examine the data once it was collected.

4.2 RELIABILITY ANALYSIS (PILOT TEST)

The survey was piloted with 30 respondents before it was sent out to 103 respondents.

Table 4.1: Reliability Cronbach's Alpha Result for the Variables.

Variable	Number of Items	Cronbach's Alpha Coefficient	Strength of Association
Farming Experience	5	0.894	Very Good
Farm Size	6	0.828	Very Good
Price of Pineapple	4	0.842	Very Good
Cost of Inputs	6	0.861	Very Good
Quantity of Pineapple	4	0.800	Very Good

Supplied

Overall Variables	25	0.902	Excellent
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The aggregate value of Cronbach's Alpha coefficient for the independent and dependent variables in this study is shown in Table 4.1. The table shows that all variables were above 0.7, with a total value of 0.902. Therefore, the provided outcome is trustworthy and could potentially be used for the current investigation.

In Johor, Malaysia, five questions were utilized to assess the farming experience that influences the quantity of pineapple supplied. According to Table 4.1, the Cronbach's Alpha for the questions throughout this part was 0.894, meaning it is very good. As a consequence, the correlation coefficients calculated for the farming experience variable queries were reliable. Furthermore, the farm size variable included six questions that controlled for the quantity of pineapple supplied in Johor, Malaysia. In this area, the Cronbach's Alpha coefficient was 0.828, suggesting a very good value. Therefore, the Pearson coefficients generated for the farm size factor queries comprised trustworthy.

In Johor, the quantity of pineapple supplied was affected by the price of the pineapple. To evaluate the impact of price on supply, four inquiries were employed. The reliability of the questions in the pineapple price variable was verified with Cronbach's Alpha, which yielded a score of 0.842 and is deemed to be very good. This resulted in reliable coefficients being produced for the aforementioned questions.

In Johor, Malaysia, the amount of pineapple supplied was influenced by the cost of inputs, which was measured using six questions. The reliability of the questions in the variable cost of inputs was calculated using Cronbach's Alpha, which yielded a score of 0.861, indicating a high level of reliability as per Table 4.1. Thus, the coefficients generated for these questions were deemed reliable.

Furthermore, the quantity of pineapple supplied in Johor, Malaysia, was calculated utilizing a series of four questions. This section's Cronbach's Alpha score was 0.800, suggesting very good reliability. In a result, the coefficients produced from these questions were judged reliable as well.

Due to the Cronbach's Alpha value for the variables is better than 0.9, the surveys are exceptionally trustworthy, and the study may be extended. Overall, the reliability indicated that the questions were understood by the respondents, demonstrating that the questionnaires were adequate for this study.

4.3 DEMOGRAPHIC PROFILE CHARACTERISTICS OF RESPONDENT

The frequency analysis is part of the study's baseline analysis. Part A of the questionnaire includes questions about the respondents' gender, age, race, marital status, education level, and religion. The demographic features of the respondents are tabulated.

4.3.1 Gender

Table 4.2: Number of Respondents by Gender

Gender	Frequency	Percentage (%)	Cumulative Percentage (%)
Female	42	40.8	40.8
Male	61	59.2	100.0
Total	103	100.0	

The gender of the survey respondents was shown in Table 4.2. There were 42 female

respondents and 61 male respondents among the 103 total respondents. In terms of gender distribution, 40.8% were female and 59.2% were male.

4.3.2 Age

Table 4.3: Number of Respondent by Age

Age	Frequency	Percentage (%)	Cumulative Percentage (%)
21-30 years	30	29.1	29.1
31-40 years	35	34.0	63.1
40 years above	38	36.9	100
Total	103	100	

Table 4.3 presents the total number of responses by age. The questionnaire was completed by 103 individuals ages 21–30 (30 respondents), 31–40 (35 respondents), and 40 and above (38 respondents). According to Table 4.3, respondents aged 40 and above recorded the highest percentage of respondents (36.9%), followed by respondents aged 31–40 (34.0%) and respondents aged 21–30 (29.1%).

4.3.3 Ethnicity

Table 4.4: Number of Respondent by Ethnicity

Ethnicity	Frequency	Percentage (%)	Cumulative Percentage (%)
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Malay	50	48.5	48.5
Chinese	39	37.9	86.4
Indian	14	13.6	100
Total	103	100	

Table 4.4 displayed the total number of respondents by ethnicity. The questionnaire was completed by 103 individuals, including Malay (50 respondents), Chinese (39 respondents), and Indian (14 respondents). Malay had the highest percentage of respondents (48.5%), followed by Chinese (37.9%), and Indian (13.6%).

4.3.4 Marital Status

Table 4.5: Number of Respondent by Marital Status

Marital Status	Frequency	Percentage (%)	Cumulative Percentage (%)
Single	38	36.9	36.9
Married	49	47.6	84.5
Divorced	7	6.8	91.3
Widow	9	8.7	100
Total	103	100	

Table 4.5 represents the total number of respondents by marital status. The overall number of single respondents was 38 (36.9%), married respondents were 49 (47.6%),

divorced respondents were 7 (6.8%), and widow respondents were 9 (8.7%).

4.3.5 Level Education

Table 4.6: Number of Respondent by Level Education

Level Education	Frequency	Percentage (%)	Cumulative Percentage (%)
PMR/PT3	18	17.5	17.5
SPM	45	43.7	61.2
DIPLOMA	17	16.5	77.7
DEGREE	22	21.4	99.0
MASTER	1	1.0	100
Total	103	100	

The number of respondents for each level of education is presented in Table 4.6. Of the total number of respondents, 18 individuals (17.5%) had completed their education at the PMR/PT3 level. The largest group of respondents, consisting of 45 individuals (43.7%), had completed their education at the SPM level. This was followed by 22 individuals (21.4%) with a DEGREE, and 17 individuals (16.5%) with a DIPLOMA. The group with the smallest number of respondents had completed their education at the MASTER level, accounting for only one individual (1.0%).

4.3.6. Religion

Table 4.7: Number of Respondent by Religion

Religion	Frequency	Percentage (%)	Cumulative Percentage (%)
Muslim	48	46.6	46.6
Christianity	14	13.6	60.2
Hinduism	15	14.6	74.8
Buddhism	26	25.2	100
Total	103	100	

The total number of respondents based on their religious affiliations was presented in Table 4.6. Out of the 103 total respondents, the majority were Muslim (48 respondents), Buddhism (26 respondents), Hinduism (15 respondents), and Christianity (14 respondents). Muslim religion dominated the responses with the highest percentage of 46.6%, followed by Buddhism with 25.2%, Hinduism with 14.6%, and Christianity with 13.6%.

4.4 DESCRIPTIVE ANALYSIS

This study has analyzed the mean and standard deviation for Section B, C and D of the questionnaire.

4.4.1 Independent Variables and Dependent Variables

Table 4.8: Descriptive Statistics

Variables	N	Mean	Standard Deviation
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Farming Experience	103	3.9709	0.71697
Farm Size	103	4.0712	0.60706
Price of Pineapple	103	4.1092	0.62590
Cost of Inputs	103	4.0518	0.62275
Quantity of Pineapple Supplied	103	4.0558	0.61030

The number of respondents, as well as the mean and standard deviation of the independent and dependent variables, was shown in Table 4.8. The pineapple price had the highest independent variable mean, at 4.1092, followed by farm size, at 4.0712, input cost, at 4.0518, and farming experience, at 3.9709. The dependent variable's mean was 4.0558.

4.4.2 Farming Experience

Table 4.9: Descriptive Statistic of Farming Experience

No.	Item Description	N	Mean	Standard Deviation
1.	Pineapple farming faces challenges such as weather conditions, pests and diseases that can affect crop yields.	103	3.92	0.871
2.	Pineapple farming requires access to proper agricultural resources such as land, water and seeds in order to grow pineapples efficiently.	103	4.04	0.803

3.	Pineapple farmers must constantly learn and adapt to new growing methods and technologies.	103	4.07	0.889
4.	Pineapple farmers face social and economic challenges, such as land tenure issues and market access, that can impact their farming experience	103	3.86	0.864
5.	Pineapple farmers must constantly adapt their cultivation methods to adapt to changing market demands and consumer preferences.	103	3.96	0.791

4.4.3 Farm Size

Table 4.10: Descriptive Statistic of Farm Size

No.	Item Description	N	Mean	Standard Deviation
1.	The quantity of pineapple planting depends on the area (hectares) of the farm.	103	4.11	0.791
2.	Commercial and organic fertilizers used when growing pineapples will affect the quality of fruit.	103	4.09	0.781
3.	The quantity of pineapple production depends on the type of soil used for planting.	103	4.11	0.726
4.	Pineapple cultivation is not too difficult because it can be planted in all types of soil.	103	3.99	0.975

5.	The size of the farm is not one of the reasons for the quality of pineapples to be damaged.	103	3.96	0.874
6.	The larger the farm area, the more pineapples the grower can produce.	103	4.17	0.678

4.4.4 Price of Pineapple

Table 4.11: Descriptive Statistic of Price of Pineapple

No.	Item Description	N	Mean	Standard Deviation
1.	Pineapple prices according to the current market.	103	4.19	0.768
2.	The price of pineapple varies depending on the location and season.	103	4.00	0.767
3.	The price of pineapple may be affected by factors such as transportation costs, import and export tariffs and demand/supply dynamics.	103	4.06	0.739
4.	Pineapple prices can fluctuate over time as due to changes in weather or disasters that influence pineapple production.	103	4.18	0.789

4.4.5 Cost of Inputs

Table 4.12: Descriptive Statistic of Cost of Inputs

No.	Item Description	N	Mean	Standard Deviation
1.	The cultivation of pineapples requires considerable investment in land, labour and pesticides.	103	4.01	0.773
2.	Due to the costly expense of enhanced planting materials, I have resorted to traditional planting materials.	103	4.02	0.779
3.	I use family labor due to the high costs of labor.	103	4.10	0.786
4.	Pineapple production involves high transportation costs due to its perishable nature.	103	3.99	0.869
5.	One of the main aspects of pineapple production is ground preparation, for which suitable machinery is required.	103	4.13	0.776
6.	Each month, many machineries and energy will be utilized for pineapple cultivation.	103	4.07	0.889

4.5 PEARSON CORRELATION COEFFICIENT

Pearson correlation is an important data analysis technique since it measures the linear relationship between two variables. The purpose of this type of research is to calculate the Pearson connection between farming experience, farm size, pineapple price, and input cost.

Following the determination of the significance of the relationship, researchers must assess whether the level of correlation is acceptable.

Hypothesis 1: Farming Experience

There is a significant relationship between farming experience and the quantity of pineapple supplied in Johor, Malaysia.

Table 4.13: Correlation Coefficient for Farming Experience and Quantity of Pineapple Supplied

Pearson Correlation	N	Result
Farming Experience - Quantity of pineapple supplied	103	0.726

**Sig. (2-tailed)0.000

The Pearson Correlation, shown in Table 4.13, was used to determine the relationship between farming experience and pineapple supplied in Johor, Malaysia. significant worth and number of occurrences (103). The p-value was 0.000, which was less than the significance level of 0.01. The farming experience correlation coefficient is 0.726, demonstrating a strong positive link between the quantity of pineapple supplied in Johor, Malaysia.

Hypothesis 2: Farm Size

There is a significant relationship between the price of pineapple and the quantity of pineapple supplied in Johor, Malaysia.

Table 4.14: Correlation Coefficient for Farm Size and Quantity of Pineapple Supplied

Pearson Correlation	N	Result
Farm Size - Quantity of pineapple supplied	103	0.647

**Sig. (2-tailed)0.000

The Pearson Correlation was used to analyse the connection between farm size and pineapple supplied in Johor, Malaysia, as shown in Table 4.14. Following that, The Pearson Correlation coefficient, significant value, and number of instances were all displayed. The p-value was 0.000, which was less than the significance level of 0.01. The correlation coefficient of 0.647 revealed a moderately positive link between farm size and pineapple supplied in Johor, Malaysia.

Hypothesis 3: Price of Pineapple

There is a significant relationship between farm size and the quantity of pineapple supplied in Johor, Malaysia.

Table 4.15: Correlation Coefficient for Price of Pineapple and Quantity of Pineapple Supplied

Pearson Correlation	N	Result
Price of Pineapple - Quantity of pineapple supplied	103	0.792

**Sig. (2-tailed)0.000

The Pearson correlation coefficient, significant value, and case count, which was 103, are shown in Table 4.15. The p-value was 0.000, which was less than the significance level of 0.01. The correlation value of 0.792 demonstrated a significant positive relationship

between pineapple price and the quantity of pineapple supplied in Johor, Malaysia.

Hypothesis 4: Cost of Inputs

There is a significant relationship between cost of input and the quantity of pineapple supplied in Johor, Malaysia.

Table 4.16: Correlation Coefficient for Cost of Inputs and Quantity of Pineapple Supplied

Pearson Correlation	N	Result
Cost of Inputs - Quantity of pineapple supplied	103	0.683

**Sig. (2-tailed)0.000

Table 4.16 displays the Pearson correlation coefficient, significant value, and case count of 103. The p-value was 0.000, which was less than the 0.01 level of significance. The correlation value of 0.683 suggested a relatively positive relationship between the cost of inputs and the quantity supply of pineapple in Johor, Malaysia.

4.6 FRAMEWORK ANALYSIS

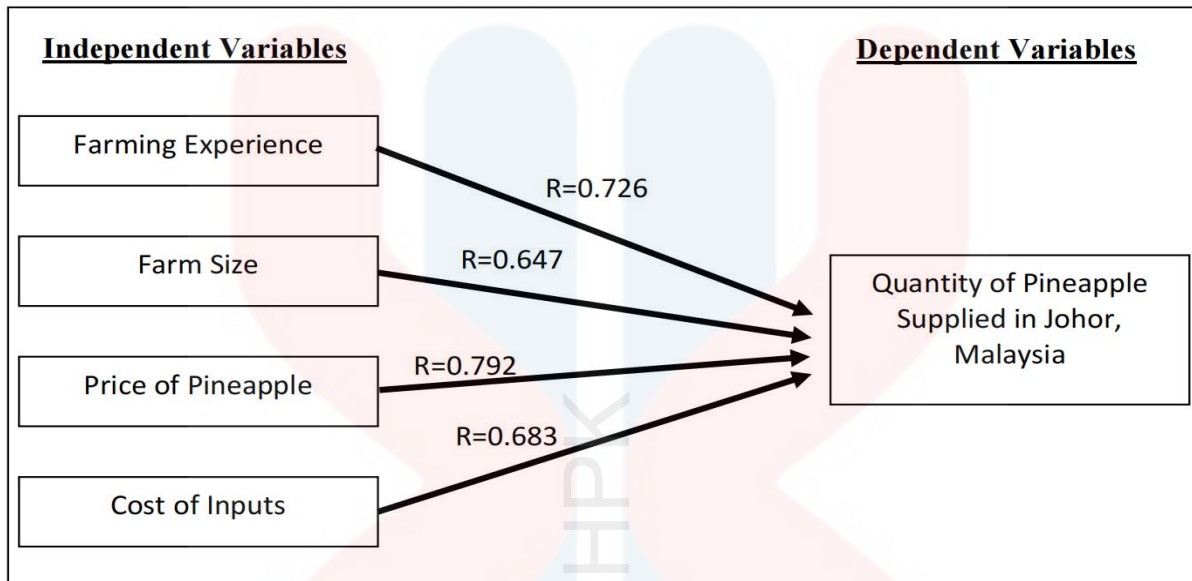


Figure 4.1: Correlation between Farming Experience, Farm Size, Price of Pineapple, Cost of Inputs and Quantity of Pineapple Supplied

Figure 4.1 depicts a data-filled frame displaying the meaning of the independent and dependent variables. The dependent variable (the quantity of pineapple supplied in Johor, Malaysia) was shown to be strongly related to four independent factors (farming experience, farm size, pineapple price, and input cost). The strongest Pearson correlation, 0.792, shows a significant positive association between pineapple price and quantity of pineapple supplied. Meanwhile, there is a strong positive association between farming experience and the quantity of pineapple supplied in the Malaysian state of Johor. In Johor, Malaysia, there were moderately positive Pearson correlations between farm size and input costs and quantity of pineapple supplied, 0.647 and 0.683, respectively. Therefore, farming experience, farm size, pineapple price and input cost have a significant relationship with quantity of pineapple supplied.

4.7 Summary

The results of descriptive analysis, reliability testing, Pearson Correlation, and framework analysis were studied in this chapter.



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CHAPTER 5

CONCLUSION

5.1 INTRODUCTION

This chapter summarizes the findings of the previous analysis. Aside from that, this chapter discusses and describes limits and future research directions.

More importantly, the purpose of this research is to look at the influence of farming experience, farm size, pineapple price, and input cost on the quantity of pineapple supplied in Johor, Malaysia. As a consequence, the data was evaluated in SPSS version 28.

5.2 DISCUSSION OF FINDINGS

Before distributing the survey to 103 respondents using online survey and face-to-face technique, 30 respondents were tested for dependability. It was evaluated using the Cronbach's Alpha Coefficient, which ranged from 0.800 to 0.902. Cronbach's Alpha was 0.894 for farming experience, 0.861 for cost of input variables, 0.842 for price of pineapple variables, 0.828 for farm size variable, and 0.800 for the quantity of pineapple supplied. As a result, all variables exceeded the minimal reliability criterion since the Cronbach's Alpha values were more than 0.7.

In the descriptive analysis of the independent variables, the variable price of pineapples had the highest mean (4.1092), then the variable farm size (4.0712), and finally cost of inputs (4.0518). Farming experience had the lowest independent variable mean (3.9709). The dependent variable's mean is 4.0588. This demonstrates that the price of pineapple has the greatest influence on the quantity of pineapple supplied in Johor, Malaysia.

A correlation analysis was used by the researchers to analyse the linear relationship between the two variables chosen as the study's goal. The correlation analyses are summarized in Table 5.1. Farm size and input costs had a moderate positive association, but farming experience and pineapple price had a strong positive link.

Table 5.1: Summary of Correlation Analysis

Hypothesis	Significant Value	Conclusion	Correlation Value	Conclusion
1	0.000	Accepted	0.726	High Positive
2	0.000	Accepted	0.647	Moderate Positive
3	0.000	Accepted	0.792	High Positive
4	0.000	Accepted	0.683	Moderate Positive

5.3 LIMITATION OF THE STUDY

A number of limitations apply to the entire study. It is crucial to understand the current investigation's serious limits. The primary restriction of this study was the time constraint, which required months to collect all of the data. The researchers established a plan to contact the respondents as soon as possible. As a result, researchers will be unable to obtain the necessary number of respondents.

Another constraint is the technique of data collection. Qualitative approaches and Google Forms are used by researchers to obtain data. Using a Google form simplifies, organizes, and improves the accuracy of data collection from replies.

Using Google forms, researchers may also collect data from respondents more simply. The drawback of using a Google form to create a poll is that no replies are received. The researcher had to send out the questionnaire numerous times in order to elicit a response.

Finally, the researcher will select a specific topic to ensure that the study is more informative and simple to comprehend for respondents.

5.4 RECOMMENDATION

This study advises that more research on variables impacting pineapple supply in Johor, Malaysia, be conducted, since this study focused on pineapple farmers to determine whether there is a correlation in the results. As a result, certain pineapple suppliers may be able to respond to this inquiry.

Furthermore, the current study focuses entirely on the factors influencing pineapple supply in Johor, Malaysia. This study, however, may have overlooked numerous key factors impacting pineapple supply in the Malaysian state of Johor. As a result, researchers may suggest that other variables, such as credit acquisition, be included in future study to give fresh insights.

The survey was also limited to 103 respondents, indicating a small market. As a result, researchers in the future should expand the sample size to improve the study's reliability and precision. Finally, rather than having respondents complete an online scale questionnaire, it might interview them or give them an open-ended question. The interview method may be used by researchers to obtain high response rates, explain ambiguities, and quickly follow up on partial responses. In truth, this practice can aid in the elimination of misunderstandings and the production of improved study outcomes.

5.5 CONCLUSION

In a nutshell, these variables have a significant and beneficial influence on pineapple supply in Johor, Malaysia. The outcomes of this study suggested that the price of pineapple impacted its supply. Simply said, the study's aim of determining the farming experience, farm size, input costs, and pineapple price that influence pineapple supply has been met.

REFERENCES

- Amar Ahmadi bin Thalip,. (2015, October). *The MD2 'Super Sweet' pineapple (Ananas comosus)*. Retrieved December 20, 2022, from <http://myagric.upm.edu.my/id/eprint/16559/1/TheMD2%28SuperSweet%29pineapple%28Ananascomosus%29-AmarAhmadbinThalip%2CTongP.S.andCaseyNg.pdf>
- Ashirwadani, J. (2014, January 1). *Methods of Data Analysis*. Retrieved January 2, 2023, from https://www.academia.edu/8135057/Methods_of_Data_Analysis
- Bhat, A. (2023, January 9). *Data Collection: What it Is & Methods with Examples*. QuestionPro. Retrieved January 10, 2023, from <https://www.questionpro.com/blog/data-collection/>
- Bounthavong, M. (2019, May 17). *Communicating data effectively with data visualization – Part 15 (Diverging Stacked Bar Chart for Likert scales)*. Mark Bounthavong. Retrieved January 1, 2023, from <https://mbounthavong.com/blog/2019/5/16/communicating-data-effectively-with-data-visualization-part-15-divergent-stacked-bar-chart-for-likert-scales>
- Cag5Fk. (2015, November 16). *Using and Interpreting Cronbach's Alpha | University of Virginia Library Research Data Services + Sciences*. Retrieved January 9, 2023, from <https://data.library.virginia.edu/using-and-interpreting-cronbachs-alpha/>
- Catania, J. A., Dolcini, M. M., Orellana, R., & Narayanan, V. (2015). Nonprobability and Probability-Based Sampling Strategies in Sexual Science. *The Journal of Sex Research*, 52(4), 396. <https://doi.org/10.1080/00224499.2015.1016476>

Definition of Market Supply | Higher Rock Education. (n.d.). Retrieved December 10, 2022, from <https://www.higherrockeducation.org/glossary-of-terms/market-supply>

Efretuei, A. (2016, October 17). *Peat Soils*. The Permaculture Research Institute. Retrieved December 31, 2022, from <https://www.permaculturenews.org/2016/10/17/peat-soils/>

Experience. (n.d.). Yogapedia.com. Retrieved December 10, 2022, from <https://www.yogapedia.com/definition/5150/experience>

Factors affecting pineapple market supply in Johor, Malaysia. (n.d.). CORE Reader. Retrieved December 18, 2022, from <https://core.ac.uk/reader/153834090>

Fruit Crops Statistic Malaysia 2021. (2021). *Department of Agriculture, Malaysia*. Retrieved December 28, 2022, from http://www.doa.gov.my/index/resources/aktiviti_sumber/sumber_awam/maklumat_pertanian/perangkaan_tanaman/statistik_tanaman_buah_2021.pdf

Fusco, L. J. (2021, June 25). *What is a Tropical Fruit? Some Tropical Fruits, Health Benefits*. FoodDevise - Food and Cooking. Retrieved December 1, 2022, from <https://fooddevise.com/what-is-a-tropical-fruit/>

Hamed Taherdoost. (2016). *Sampling Methods in Research Methodology; How to Choose a Sampling Technique for Research*. Retrieved January 9, 2023, from

https://www.researchgate.net/publication/319998246_Sampling_Methods_in_Research_Methodology_How_to_Choose_a_Sampling_Technique_for_Research

In, J. (2017). Introduction of a pilot study. *Korean Journal of Anesthesiology*, 70(6), 601.

<https://doi.org/10.4097/kjae.2017.70.6.601>

Internet Surveys | Pew Research Center. (2014, September 29). Pew Research Center - U.S. Politics & Policy. Retrieved January 10, 2023, from <https://www.pewresearch.org/politics/methodology/collecting-survey-data/internet-surveys/>

Jahoda, Deutch & Cook, & Henry Manheim. (2016). *Research Design*. Retrieved January 8, 2023, from https://www.researchgate.net/publication/308915548_Research_Design

Kamble, S. (2022, February 28). *What Is Price? – Meaning & Function*. Feedough. Retrieved November 20, 2022, from <https://www.feedough.com/what-is-price-meaning-function/>

Kelbaugh, T. (2017, September 25). *History of the Pineapple*. Dambly's Garden Center. Retrieved December 25, 2022, from <https://damblys.com/pineapple-history-lesson/>

Kress, J. W. (2008, June 25). *Poales* | *plant order*. Encyclopedia Britannica. <https://www.britannica.com/plant/Poales>

Kurniawan, D. (2022, August 1). *Descriptive Statistics: Measure of Central Tendency, Variation, and Position*. Medium. Retrieved January 9, 2023, from

<https://medium.com/mlearning-ai/descriptive-statistics-measure-of-central-tendency-variation-and-position-fc4681a54f7c>

Lamm, A., & Lamm, K. (2019). Using Non-Probability Sampling Methods in Agricultural and Extension Education Research. *Journal of International Agricultural and Extension Education*, 52. <https://doi.org/10.5191/iaee.2019.26105>

Lani, J. (2021, August 3). *SPSS – Statistical Package for Social Sciences*. Statistics Solutions. Retrieved January 9, 2023, from <https://www.statisticssolutions.com/spss-statisticalpackageforsocialsciences/>

LibGuides: Literature Review: What is a literature review? (n.d.). Retrieved December 26, 2022, from <https://guides.library.bloomu.edu/litreview>

Mail, M. (2022, April 7). *Malaysia's pineapple exports show upward trend from 2016 to 2020, says minister*. Malay Mail. Retrieved December 29, 2022, from <https://www.malaymail.com/news/money/2022/04/07/malaysias-pineapple-exports-show-upward-trend-from-2016-to-2020-says-minist/2052213>

Md Suhaimi, N.H. (2022, July 10). *Determinants of agricultural competitiveness: the case of pineapple production among smallholders in Johor, Malaysia*. Retrieved December 26, 2022, from https://www.myfoodresearch.com/uploads/8/4/8/5/84855864/_14_fr-kliafp-003_md_suhaimi.pdf

Ministry of Agriculture and Food Industries. (n.d.). *AGROFOOD STATISTICS 2020*.

Retrieved December 28, 2022, from

<https://www.mafi.gov.my/documents/20182/361765/BPAM+2020+as+at+%2810+JAN+2022%29.pdf/ff5454e4-c727-46e1-9811-16e3148a6ebf>

Muhamad Zahid Muhamad. (2022, November 19). *Investigating Yield Variability and Technical Efficiency of Smallholders Pineapple Production in Johor*. Retrieved December 30, 2022, from <https://www.mdpi.com/2071-1050/14/22/15410>

Munir, U. (2017, October 10). *RESEARCH INSTRUMENTS FOR DATA COLLECTION*.

Retrieved January 10, 2023, from

https://www.academia.edu/34823600/RESEARCH_INSTRUMENTS_FOR_DATA_COLLECTION

Paul A. M., L. L. W. V. B. G. (2015, July 1). *Introduction and Literature Review | 4 | Social Dilemmas | Van Lange P*. Taylor & Francis. Retrieved December 22, 2022, from

<https://www.taylorfrancis.com/chapters/edit/10.4324/9780203769560-4/introduction-literature-review-van-lange-paul-wim-liebrand-messick-david-wilke-henk>

Perangkaan_buah_2020. (2022, January 17). Retrieved December 28, 2022, from

<https://fliphtml5.com/flqg/bqdt/basic>

Pineapple – Biotech Plantations. (n.d.). Retrieved January 2, 2023, from

<https://biotechplantations.com/pineapple/>

Problem Statement, Conceptual Framework, and Research. . . : Academic Medicine. (n.d.).

LWW. Retrieved December 27, 2022, from

https://journals.lww.com/academicmedicine/Fulltext/2001/09000/Medical_and_Veterinary_Students_Structural.00021.aspx

Raziah Mat Lin. (2009). [http://etmr.mardi.gov.my/Content/02-](http://etmr.mardi.gov.my/Content/02-%20Raziah%20Mat%20Lin.pdf)

[%20Raziah%20Mat%20Lin.pdf](http://etmr.mardi.gov.my/Content/02-%20Raziah%20Mat%20Lin.pdf). Retrieved December 28, 2022, from

[http://etmr.mardi.gov.my/Content/ETMR+Vol.+4+\(2009\)3.+Raziah+Ex+post+\(A\)+\(25-35\)/Text+Raziah+ex+post.pdf](http://etmr.mardi.gov.my/Content/ETMR+Vol.+4+(2009)3.+Raziah+Ex+post+(A)+(25-35)/Text+Raziah+ex+post.pdf)

Research Instrument. (n.d.). StudySmarter US. Retrieved January 10, 2023, from

<https://www.studysmarter.us/explanations/marketing/marketing-information-management/research-instrument/>

Sampling Methods. (2022, April 17). Unacademy. Retrieved January 10, 2023, from

<https://unacademy.com/content/jee/study-material/mathematics/sampling-methods/>

Shah, M. F. (2019, November 28). *More land needed for pineapple plantation.* The Star.

Retrieved December 30, 2022, from [https://www.thestar.com.my/metro/metro-](https://www.thestar.com.my/metro/metro-news/2018/09/25/more-land-needed-for-pineapple-plantation-a-total-of-5000ha-needed-to-grow-the-fruit-now-exported-to/)

[news/2018/09/25/more-land-needed-for-pineapple-plantation-a-total-of-5000ha-needed-to-grow-the-fruit-now-exported-to/](https://www.thestar.com.my/metro/metro-news/2018/09/25/more-land-needed-for-pineapple-plantation-a-total-of-5000ha-needed-to-grow-the-fruit-now-exported-to/)

STATISTIK TANAMAN BUAH-BUAHAN Fruit Crops Statistic 2019. (n.d.). Docslib.

Retrieved December 28, 2022, from [https://docslib.org/doc/2245916/statistik-tanaman-buah-](https://docslib.org/doc/2245916/statistik-tanaman-buah-buahan-fruit-crops-statistic-2019)

[buah-fruit-crops-statistic-2019](https://docslib.org/doc/2245916/statistik-tanaman-buah-buahan-fruit-crops-statistic-2019)

Supply. (2022, November 27). Investopedia. Retrieved December 23, 2022, from <https://www.investopedia.com/terms/s/supply.asp>

Team, W. (2022, July 15). *Quantity Supplied*. WallStreetMojo. Retrieved December 15, 2022, from <https://www.wallstreetmojo.com/quantity-supplied/>

The Editors of Encyclopaedia Britannica. (2022, November 28). *Pineapple | Description, History, & Facts*. Encyclopedia Britannica. Retrieved December 25, 2022, from <https://www.britannica.com/plant/pineapple>

Tropical Fruit Information. (2011, November 1). Retrieved December 1, 2022, from <https://www.itfnet.org/v1/tropical-fruit-info/>

Turney, S. (2022, December 5). *Pearson Correlation Coefficient (r) | Guide & Examples*. Scribbr. Retrieved December 20, 2022, from <https://www.scribbr.com/statistics/pearson-correlation-coefficient/>

West, P. W. (2016, August 21). *Simple random sampling of individual items in the absence of a sampling frame that lists the individuals - New Zealand Journal of Forestry Science*. SpringerOpen. Retrieved January 9, 2023, from <https://nzjforestryscience.springeropen.com/articles/10.1186/s40490-016-0071-1>

What is a Global Market? (2022, December 23). Smart Capital Mind. Retrieved December 10, 2022, from <https://www.smartcapitalmind.com/what-is-a-global-market.htm>

What is Supply? Definition, Concept, Determinants, Types, Function. (2021, January 21).

Geektonight. Retrieved December 1, 2022, from <https://www.geektonight.com/what-is-supply/>

Wikipedia contributors. (2022, November 21). *Pineapple*. Wikipedia. Retrieved December 20, 2022, from <https://en.wikipedia.org/wiki/Pineapple>

WISCONSIN DEPARTMENT OF PUBLIC INSTRUCTION. (n.d.). *Pineapple*. Retrieved December 20, 2022, from <https://dpi.wi.gov/sites/default/files/imce/school-nutrition/pdf/fact-sheet-pineapple.pdf>