PERCEIVED VALUE AND PRODUCT PERFORMANCE: A CASE STUDY OF RED PALM OIL PRODUCTION IN MALAYSIA

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ABSTRACT

Palm oil has dominated trade in Malaysia's agricultural sector since 1990. However, consumer lacks awareness of red palm oil product quality and the real value possibly obtained from its consumption. Hence, the aim of this study is to assess the current consumer perceived value of red palm oil products. In addition, the objective of this study is to conduct a value analysis of red palm oil from the producers' perspective and identify potential improvements for red palm oil production. This study applies a mixed-method research approach in which consumers' opinions are assessed using a quantitative method while a qualitative approach is adopted to gain a deeper understanding of industry players' insights on palm oil product performance. Survey questionnaire is used to obtain opinions from palm oil consumers, while semi-structured interviews are conducted to gain deeper insights of red palm oil value analysis from palm oil producers. Descriptive statistics are applied to analyse the quantitative data and thematic analysis is used to obtain the patterns of input from qualitative data. The results found that red palm oil has great potential in the market if the awareness of the product is enhanced through promotion, and the price offered is reasonable. Production cost, consumer expectation of affordable price, sustainability requirements are among the key features of perceived value form the producers' perspective. Additionally, the imperatives of government support, pro-active promotion and campaigns, and collaboration with strategic partners are proposed. This study contributes to practice by emphasizing the existence of gaps in perceived value of red palm oil among consumers and producers, and proposing the framework of enhancing red palm oil product performance.

Keyword: Red palm oil, perceived value, consumer, producer, product performance, sustainability

APPROVAL

This is to certify that this thesis conforms to acceptable standards of scholarly presentation and is fully adequate, in quality and scope, for the fulfilment of the requirements for the degree of Doctor of Business Administration

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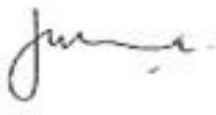

Professor Juhary Bin Ali

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12 September 2023

DECLARATION

I hereby declare that the thesis submitted in fulfilment of the PhD degree is my own work and that all contributions from any other persons or sources are properly and duly cited. I further declare that the material has not been submitted either in whole or in part, for a degree at this or any other university. In making this declaration, I understand and acknowledge any breaches in this declaration constitute academic misconduct, which may result in my expulsion from the programme and/or exclusion from the award of the degree.

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Signature of Candidate: **Date**: 12 September 2023

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walk this path of perpetual discovery, I invite you to join me. Let's embrace the beauty of curiosity, the joy of uncovering new truths, and the wonder of evolving into the best versions of ourselves. Together, we can demonstrate that the flame of learning never fades; it only grows brighter with time.

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LIST OF ABBREVIATION

CPO	Crude Palm Oil
CPV	Consumer Perceived Value
MPOB	Malaysian Palm Oil Board
MPOC	Malaysian Palm Oil Council
MSPO	Malaysian Sustainable Palm Oil
RBD	Refined, Bleached and Deodorised
RSPO	Roundtable on Sustainable Palm Oil

CHAPTER 1

INTRODUCTION

1.0 Introduction

This chapter introduces the background of the study. It highlights the problem statement, research questions, and objectives, followed by the significance of the study, the scope of the study, and the definition of key terms. The chapter ends with an explanation of the organization of the thesis.

1.1 Background of the Study

The Agriculture Sector emerged as the second most important sector of Malaysian trade in 2020 with a contribution of 6.8 percent, surpassing the trade of mining products. Palm oil has dominated trade in Malaysia's agricultural sector since 1990. Malaysia will contribute 25.8 percent and 34.3 percent respectively to the production and export of world palm oil in 2020 (Malaysia Trade Statistics Review, 2021). The main destination countries for Malaysia's palm oil exports are India, China, and the European Union.

1.1.1 Palm Oil as a Key Contributor to Malaysia’s Economic Growth

Palm oil has made consistent advancements. It began as an ornamental plant in Malaysia and has now grown to be a significant industry. Oil palm extraction has generated many economic gains and is currently a developing economic sector in Malaysia.

Palm oil dominates trade in the Agriculture Sector in Malaysia since 1990, contributing 40.7 percent in 2020 (Department of Statistics Malaysia, 2021). The most common vegetable oil in the world in terms of production, consumption, and trade is

palm oil. As stated by Grobert et al (2019), the top palm oil producers are Indonesia and Malaysia, followed by Thailand, Colombia, Nigeria, and Ecuador while the top consumers include countries like India, China, Pakistan, and the European Union (EU). The details of Malaysia Palm Oil Exports to Top 10 countries as shown in Table 1.1 below.

Table 1.1: Malaysia palm oil exports to top 10 countries

Countries	2021	2020	Change (Vol)	Change (%)
India	3,592,811	2,745,081	847,731	30.88
China	1,885,366	2,741,201	-855,835	-31.22
Netherlands	988,585	1,072,952	-84,367	-7.86
Turkey	703,588	615,872	87,716	14.24
Kenya	672,715	520,758	151,957	29.18
Pakistan	609,807	1,003,601	-393,794	-39.24
Philippines	579,752	693,441	-113,689	-16.39
Japan	421,193	433,022	-11,829	-2.73
Iran	404,320	321,106	83,214	25.91
South Korea	347,522	453,278	-105,756	-23.33
TOTAL	**10,205,659**	**10,600,312**	**-394,653**	**-3.72**

Source: Malaysian Palm Oil Board (MPOB), 31 March 2022

Table 1.1 indicates the top 10 countries for Malaysia's Palm Oil Exports. From this table, we can see India increased its imports of Malaysian Palm Oil (MPO) by

847,731 tonnes (30.88%). Meanwhile, China decreased by -855,835 tonnes (-31.22%). Both countries stayed to be the top consumers of MPO.

The production of palm oil products can increase the economic activity of the country. For example, the development of oil palm plantations in Riau has an impact on rural economic activities in which farmers' incomes range from USD$4,633.37–5,500.32 per year. Besides, it positively affects the acceleration of the community's economic development in an effort to reduce poverty in rural areas (Almasdi, 2019).

In Malaysia, the contribution of the export of oil and palm-based products to the country's export income has increased to RM108.52 billion in 2021 compared to RM73.33 billion in 2020. The contribution of the palm subsector to the Gross Domestic Product (GDP) in 2021 is also worth RM44.98 billion or representing 53.38 percent of the total GDP contribution of the country's agricommodity sector (Ministry of Plantation and Commodities, 2022). In addition, Malaysian palm oil has successfully penetrated a new global market with at least three countries that had never imported the commodity before, already making purchases. From January to July 2022, Estonia had imported 2,501 tons of Malaysian palm oil worth RM20.22 million, the Czech Republic with 95 tons worth RM0.88 million, and Hungary brought in 853 tons worth RM6.73 million (Ministry of Plantation and Commodities, 2022).

Palm Oil was discovered to be the most productive crop when compared to other crops, producing five times as much oil (Seng and Ahmad, 2017), and it consequently had a significant impact on the Malaysian palm oil sector. The local market did, however, continue to have a substantial position for other vegetable oils, such as olive and coconut oil (Seng and Ahmad, 2017). The greater consumption of palm oil from Indonesia by 56.0% to 5.00 million tonnes in 2022 from 3.20 million tonnes in 2021 was attributed to the 19.8% decrease in palm oil shipments to India from 3.60 million

tonnes in 2021 to 2.89 million tonnes in 2022. The import of soybean oil increased by 10.8% to 3.91 million tonnes in 2022 from 3.53 million tonnes in 2021, which was another contributing element (MPOB, 2022).

1.1.2 Challenges and Opportunities of the Palm Oil Industry

According to Malaysia Palm Oil Board (2022), all palm oil-related product prices increased in 2022. When compared to 2021, the crude palm oil (CPO) price increased by 15.4%, or RM680.50/tonne, to RM5,087.50/tonne. The trading price for 2022 reached its greatest point in May at RM6,873.00/tonne and its lowest point in October at RM3,682.00/tonne. Higher prices for soybeans and Brent crude oil on the global market, a weaker Ringgit against the US dollar that made palm oil more affordable than other vegetable oils, and the protracted Ukraine-Russian conflict that disrupted the sunflower oil supply chain globally and increased demand for palm oil as a replacement for sunflower oil were some of the factors that contributed to higher CPO prices in 2022. In addition, Indonesia's CPO export restriction and increased export levies, India's lower vegetable oil import tariff, and the drought in Argentina all contributed to the higher prices by maintaining supply tensions in the oilseeds market and driving up the cost of vegetable oil.

As the demand for palm oil continues to rise globally, Malaysia grapples with the need to strike a delicate balance between economic growth and sustainable practices. The cultivation of palm oil serves as a significant source of revenue for Malaysia, both domestically and internationally. Palm oil exports form a substantial portion of the country's total exports, providing a crucial stream of foreign exchange earnings. Since palm oil is a crucial component of countless food, cosmetic, and industrial items all over the world, demand for the commodity is still high. Malaysia's

capacity to satisfy this demand gives it a favourable position in international markets and supports the growth of its GDP.

1.1.3 Red Palm Oil Potential Value for Consumers

Red palm oil comes from the fruit of the oil palm tree (Elaeis guineesis) (Loganathan et al. (2023). Red palm oil contains many benefits and is healthier (rich content of vitamins and antioxidants Unlike refined oils, red palm oil retains high levels of beta-carotene, a precursor to Vitamin A, which gives it a distinct red color. Vitamin A is essential for maintaining healthy vision, immune function, and overall well-being. This nutritional profile has caught the interest of health-conscious consumers seeking natural, nutrient-dense alternatives to processed oils. Moreover, red palm oil contains other beneficial compounds such as tocopherols, tocotrienols, and carotenoids, which exhibit potent antioxidant properties. These antioxidants help protect the body against oxidative stress and inflammation, reducing the risk of chronic diseases such as heart disease and certain types of cancer. The growing body of scientific research supporting the health benefits of red palm oil has contributed to a shift in consumer perception, positioning it as a valuable addition to a balanced diet. The health benefits of phytonutrients found in red palm oil will be explained in Table 1.2.

Table 1.2: Health benefits of red palm oil's phytonutrients

Amount of Phytonutrient	Benefits to health and composition
Vitamin E (717–863 ppm)	Composition: a-tocopherol (19%), a-tocotrienol (29%), c-tocotrienol (41%), d-tocotrienol (10%) Anticancer, antiangiogenic, antioxidant, antiatherosclerotic, cardioprotective, and neuroprotective effects; prevents the production of cholesterol; helps control diabetes

Carotenoids (600–750 ppm)	Composition: phytoene (0.2%), phytofluene (0.6%), b-carotene (41.0%), a-carotene (41.3%), cis-a-carotene (10.2%), f-carotene (0.6%), c-carotene (0.8%), d-carotene (0.8%), neurosporene (0.2%), b-zeacarotene (1.3%), a-zeacarotene (0.5%), lycopene (1.0%) Provitamin A activity, cardioprotective and anticancer action, and prevention of night blindness are all beneficial to health.
Phytosterols (325–365 ppm)	Composition: cholesterol (6.6–11.5 ppm), campesterol (76–83 ppm), stigmasterol (59–64 ppm), b-sitosterol (187–218 ppm), unknown (<6 ppm) Benefits for health: lowers cholesterol, fights cancer, and strengthens the immune system
Squalene (14–15 ppm)	Cardioprotective, radioprotective, and anticancer properties; prevents the production of cholesterol.
Ubiquinone (18–25 ppm)	Benefits to health include increased cellular energy production, antioxidant capabilities, cardioprotective effects, and anticancer activities.

Note: abbreviation:ppm, parts per million

Source: Loganathan et al. (2023), Bonnie & Choo (2000)

Table 1.2 depicted the health benefits of the constituent phytonutrients of red palm oil. The carotenoids that give red palm oil and fruit its bright orange-red colour are among the world's finest natural plant sources (Sommer, 1995). The primary processed product, refined, bleached, and deodorised palm oil, is produced by bleaching and deodorising crude palm oil. Because the carotenes that give crude palm oil its reddish-orange colour are destroyed during the refining process, refined, bleached, and deodorised palm oil has a pale yellow colour, which is what is mainly