

MODELING CONSUMER PURCHASE INTENTIONS FOR PLANT FACTORY PRODUCTS USING LOGISTIC REGRESSION (*Permodelan Regresi Logistik untuk Niat Pengguna Membeli Produk Kilang Tanaman*)

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ABSTRACT

A plant factory is a closed-growing system that allows farmers to control growing conditions and ensure safer vegetables without pesticides. However, to maximise the success of the plant factory, it is critical to discover the aspects regarded as relevant by consumers when purchasing vegetables and fruits. This study uses the logistic regression model to explore the market potential of curly kale and strawberries cultivated in plant factories by determining the factors influencing the consumer intention to purchase plant factory products. Data were collected through a structured face-to-face survey in two phases in 2022 (curly kale) and 2023 (strawberry). A total of $n = 558$ in phase one and $n = 438$ in phase two were randomly selected in urban areas across Malaysia. The result of this study explains that socio-demographic factors such as household income, plant factory consumers, lifestyle diets and consumer concerns about pesticide-free positively influence the consumer intention to purchase plant factory curly kale. Meanwhile, the logistic regression model also revealed that socio-demographic factors such as age and household size, selected attributes (taste and colour) and consumer knowledge of plant factories significantly influenced consumer intention to purchase plant factory strawberries. This study has practical consequences, particularly for individuals or businesses interested in introducing the notion of a plant factory in Malaysia. These models' significant factors can be employed to establish the value proposed to the client as well as the marketing strategy for plant factory producers.

Keywords: logistic regression; purchase intention; plant factory; curly kale; strawberry

ABSTRAK

Kilang tanaman ialah sistem penanaman tertutup yang membolehkan petani mengawal keadaan pertumbuhan tanaman dan memastikan sayur-sayuran yang lebih selamat tanpa penggunaan racun perosak. Walau bagaimanapun, untuk memaksimumkan keuntungan kilang tanaman, adalah penting untuk mengenal pasti aspek yang dianggap relevan oleh pengguna semasa membeli sayur-sayuran dan buah-buahan. Kajian ini menggunakan model regresi logistik untuk meneroka potensi pasaran kailan kerinting dan strawberi yang ditanam di kilang tanaman dengan menentukan faktor-faktor yang mempengaruhi niat pengguna untuk membeli produk kilang tanaman. Data dikumpul melalui tinjauan secara bersemuka dalam dua fasa pada tahun 2022 (kailan kerinting) dan 2023 (strawberi). Sebanyak $n = 558$ responden dalam fasa pertama dan $n = 438$ dalam fasa kedua telah dipilih secara rawak di kawasan bandar di seluruh Malaysia. Hasil kajian ini menunjukkan bahawa faktor sosio-demografi seperti pendapatan isi rumah, pengguna kilang tanaman, diet gaya hidup, dan keprihatinan pengguna terhadap produk bebas racun perosak secara positif mempengaruhi niat pengguna untuk membeli kailan kerinting dari kilang tanaman. Sementara itu, model regresi logistik juga menunjukkan bahawa faktor sosio-demografi seperti umur dan saiz isi rumah, atribut terpilih (rasa dan warna), serta pengetahuan pengguna tentang kilang tanaman secara signifikan mempengaruhi niat pengguna untuk membeli strawberi dari kilang tanaman. Kajian ini mempunyai implikasi praktikal, terutamanya untuk individu atau perniagaan yang berminat memperkenalkan konsep kilang tanaman di

Malaysia. Faktor signifikan daripada model ini boleh digunakan untuk menetapkan cadangan kepada pengguna serta strategi pemasaran bagi pengeluar kilang tanaman.

Kata kunci: regresi logistik; niat pembelian; kilang tanaman; kailan kerinting; strawberi

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