

**HOUSEHOLD AUTOMOBILE PURCHASE DECISION:
AN APPLICATION OF DISCRETE CHOICE MODEL IN
SELECTED AREAS IN MALAYSIA**

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By

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**Thesis Submitted to
Othman Yeop Abdullah Graduate School of Business,
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ABSTRACT

Globalization, particularly the formation of AFTA (ASEAN Free Trade Area), is expected to present greater challenges to the Malaysian automobile industry in terms of competition with neighboring countries especially Thailand. Hence, understanding consumer needs and making an adequate provision for them are crucial for local producers to survive in the globalized market economy. This research investigates how consumer's choice among three broad makes of passenger automobiles in Malaysia (Proton, Perodua, and foreign) is affected by consumer characteristics and car model prices. The data for this study are obtained from a survey on a sample of 804 households in Malaysia, and are analyzed using discrete choice models. From the analysis of the impact of household characteristics on automobile choice, it is found that a) Perodua and foreign automobiles appear to cater to small families while Proton cars to big families, b) Proton and Perodua cars appear to cater to relatively low-income people while foreign automobiles to high-income people, and c) Perodua cars appear to cater to older people while Proton or foreign cars do not appear to cater to a particular age group. Thus, local automobile producers should concentrate on the market for older persons, persons with large family and affordability. From the analysis of the impact of car model prices on automobile choice, it is found that a) each model within a given make is a substitute to other models in other makes, and b) the closest substitute to Proton is the Myvi 1300cc and Saga 1300cc is the closest substitute to Perodua. Therefore, local auto makers need to differentiate their products further to lessen competition between them. All of these results provide useful information to Proton and Perodua so that they might avoid competing with each other but they may be able to compete more successfully with foreign producers.

Keyword: Multinomial logit model, Conditional logit model, Proton, Perodua, Foreign automobiles.

ABSTRAK

Globalisasi, terutamanya dengan penubuhan AFTA (Kawasan Perdagangan Bebas ASEAN), dijangka akan memberikan cabaran yang lebih besar terhadap industri automobil Malaysia dari segi persaingan dengan negara jiran khususnya Thailand. Oleh itu, memahami keperluan pengguna dan membuat penyesuaian yang perlu adalah penting bagi pengeluar kenderaan tempatan untuk terus bersaing dalam pasaran ekonomi global. Kajian ini meneliti bagaimana pilihan pengguna terhadap tiga jenama kenderaan penumpang di Malaysia (Proton, Perodua dan pengeluar asing) dipengaruhi oleh ciri-ciri pengguna dan harga model kenderaan. Data yang digunakan dalam kajian ini diperolehi daripada soal selidik terhadap 804 sampel isi rumah di Malaysia, dan dianalisis dengan menggunakan model pilihan diskrit. Daripada analisis kesan ciri-ciri isi rumah terhadap pilihan kenderaan, didapati a) Perodua dan kenderaan asing menjadi pilihan kepada mereka yang berkeluarga kecil manakala sebaliknya Proton menjadi pilihan kepada mereka yang berkeluarga besar, b) Proton dan Perodua menjadi pilihan kepada golongan berpendapatan rendah manakala kenderaan asing menjadi pilihan kepada golongan berpendapatan tinggi, dan c) kenderaan Perodua menjadi pilihan kepada golongan yang lebih berumur namun tiada bukti menunjukkan kenderaan Proton atau asing menjadi pilihan kepada kelompok umur tertentu. Oleh itu, pengeluar kenderaan tempatan harus menumpukan kepada pasaran golongan yang lebih berumur, berkeluarga besar, dan berkemampuan. Daripada analisis kesan harga model kereta terhadap pilihan kenderaan, didapati a) setiap model daripada pengeluar tertentu adalah merupakan pengganti kepada model pengeluar yang lain, dan b) pengganti paling hampir bagi Proton adalah Myvi 1300cc manakala Saga 1300cc adalah pengganti paling hampir bagi Perodua. Sehubungan itu, pengeluar kenderaan tempatan perlu membezakan lagi produk mereka bagi mengurangkan persaingan di antara mereka. Semua keputusan kajian yang diperolehi memberi maklumat berguna kepada Proton dan Perodua supaya mereka dapat mengelakkan bersaing sesama sendiri tetapi dapat bersaing dengan jayanya dengan pengeluar kenderaan asing.

Kata Kunci: Model “multinomial logit”, Model “conditional logit”, Proton, Perodua, Kenderaan asing.

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CHAPTER ONE

INTRODUCTION

The purpose of this chapter is to provide an overview of the study and its organization. This chapter begins with a discussion of the background of the study, problem statement, research questions, objectives of the study, scope of the study, significance of the study and organization of the thesis.

1.1 Background of the Study

The global automobile industry is an important sector of the economy in many countries in the world. In 2005, the industry employed nine million people around the world to manufacture more than 65 million automobiles. The automobile industry's employment constitutes over 5% of the world's total industrialization employment. In addition, the automobile industry is one of the main contributors to government revenues around the world. It contributes more than 400 billion euros to various economies of the world (International Organization of Motor Vehicle Manufacturers, or OICA (2011)).

Historically, the world automobile industry began in the 1900s when the industry was first developed in France. However, it was only in the United States that automobiles have come of age, when Ford invented the assembly line that marked

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