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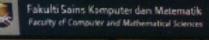
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TECHNICAL REPORT
FINAL YEAR PROJECT
CS249
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RETAIL SECTOR'S EFFICIENCY MEASUREMENT:
IMPLEMENTATION OF DATA ENVELOPMENT ANALYSIS
(DEA) IN HYPERMARKET COMPANIES

ROHAIDA KAMARUDDIN	**2019290988**
NIK NUR AIN ATHIRAH NIK ZULKIFLI	**2019475752**

Fakulti Sains Komputer dan Metematik
Faculty of Computer and Mathematical Sciences

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ABSTRACT

The retail industry has been crucial to economic growth in a big way. The emergence of hypermarkets has helped contribute to the economic rapid growth. The objective of this research study is to assess the relative effectiveness of 15 hypermarket businesses in Malaysia as the Decision-Making Unit (DMU). Data Envelopment Analysis was used to measure the performance of the hypermarket companies and estimate their efficiency. Three inputs and one output were used in this project. The number of employees, stores, total assets, and total revenue were used as inputs and outputs. According to the findings of analysis, only four hypermarket companies, DMU 11, DMU 13, DMU 14 and DMU 15 with an efficiency score of 1.The rest, however, scored between 0.141541849 and 0.827074198, indicating inefficiency. DMU 15, followed by DMU 14, DMU 13, and DMU 11, served as the benchmark for 11 inefficient hypermarket among these efficient hypermarkets. In order to increase the efficiency of the inefficient hypermarket firms by employing project determination, the efficient hypermarket companies will serve as a reference set for the inefficient hypermarket companies. In order to enhance the efficiency of the hypermarket organisation, management should maximise output while maintaining a consistent level of input.

1 INTRODUCTION

This section covers the background of study and problem statements. This section also covers objective, significance of project, scope of project and the last one is definition of terms and concepts.

1.1 Research Backgroud

Retail industry refers to the process of selling consumer goods and providing services to consumers in the form of trading and agricultural products. It was seen that business in the retail industry is experiencing a growth in the economy sector. Retail stores such as a hypermarket are on a large scale and people are able to purchase their needs under one roof and usually are located at the location with a high population.

Everybody has seen that business is rapidly growing day by day and concerning business there are always two parties called buyers and sellers, and buyers are concerned with quality, and sellers are always concerned with money (Kadyan & Jenefa, 2019). Retailing is a socio-economic system which to exchange goods and services which matches the needs of people, the ultimate consumer. It satisfies the essential daily necessities of life. Retail also includes small stores such as kiosk and small groceries.

Existence of the large supermarket chain will make industry market be more focus on the small hypermarket (Silva Junior et al., 2020). According to the Fukuyama & Tan (2022), suppliers play an important role in helping the retailing industry work well. The suppliers are responsible to supply high quality goods and technical support at a good price in their services. A supplier can be a person or business who acts as an intermediary between the retailer and manufacturer.

Hypermarkets refer to the commodity structure of food and daily necessities, self-service, centralized Settlement form (Wang, 2021). Wang (2021) stated a statement form the Ministry of Commerce (2010) in China, the hypermarkets should have five conditions. First and foremost