出國報告（出國類別：學術研討會）

綠色導向：汽車燃油效率之研究

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出國期間：106 年 11 月 1 日至 5 日
報告日期：106 年 11 月 3 日

摘要

Environmental protection, energy saving, and safety are currently the three major topics of interest in the field of automobile technology. To ensure sustainable development, large automobile manufacturers are committed to environmental policies formulated by governments as well as to international conventions. Price–performance ratios and eco-friendly vehicles with low, emissions, noise, and fuel consumption are factors attracting consumers. This study employed data envelopment analysis to investigate the vehicle efficiency of auto by collecting 2016 data from Consumer Report. The research results are as follows: (1) Cars exhibited the best performance in terms of price, costs, and mileage; luxury cars had the most favorable road test performance; sports utility vehicles (SUVs) scored highest regarding predicted reliability; and sports cars scored relatively higher in owner satisfaction. (2) Metafrontier efficiency was its highest for cars, which could be due to the highest prevalence of this auto type; hence, the technical applications were well-developed, the corresponding efficiency was relatively high, and the fuel consumption was relatively low. (3) Cars had the best performance in terms of miles-per-gallon (MPG). Not only were SUVs found to be expensive, their MPG performance was also the worst, indicating that this auto type requires further improvements regarding functional performance and environmental efficacy. The management implications of this study are as follows. Governments should formulate more stringent laws related to environmental protection, energy saving, and safety, and automobile manufacturers should comply with such regulations and enhance the quality of low-end auto models. Additionally, the application of smart and green technology in various auto types should be accelerated and conform to global trends. The conclusions can provide manufacturers with direction regarding their future product designs, methods to mitigate technology gaps, and benchmark strategies for improving inefficient brands.

目次

一、 目的

2017 年第二屆亞洲環境與永續發展大會（ACESD 2017）是在環境與永續發展領域提出新法與主要發展的主要國際會議之一。它還有助於促進在各種科學領域工作的研究人員和工作人員之間的溝通，並提供有利於改善環境和永續發展相關技術。

二、 過程

本次會議的舉辦地點在日本的東京，會議名稱為 2017 年第二屆亞洲環境與永續發展大會（2017 ACESD）和 2017 年第二屆新能源與應用國際會議（ICNEA 2017）。地點在日本東京新宿太陽道廣場飯店，會議第一天進行報到並參與主講者的報告及第一、二場次的各國學者論文發表，11 月 3 日進行論文發表，也聆聽了各國學者的報告。

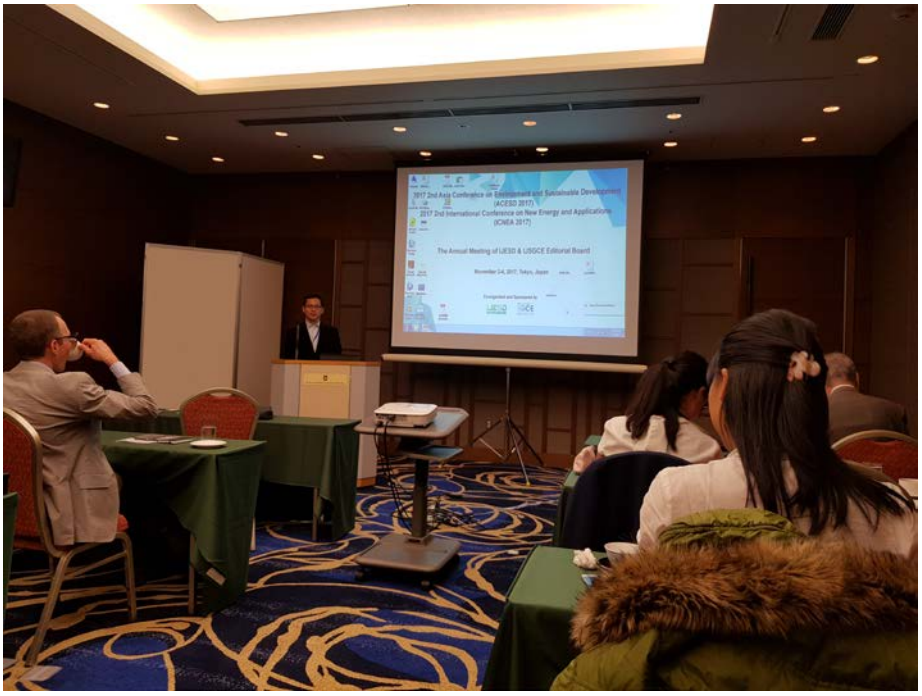

圖 1 口頭發表論文

圖 2 場次結束與該場次學者合影

圖 3 和台灣學者合影

三、 心得及建議

亞洲環境與永續發展大會(Asia Conference on Environment and Sustainable Development, ACESD)，第一屆的大會於香港舉辦，今年是第二屆，會議旨在為產官學界及從業人員和專業人士提供一個論壇平台，互相研究討論環境與永續

發展及各項專業成果。ACESD 2017 也是 IJESD 編輯委員會的年會。今年的主題包括：特別技術研討會、環境動力學、全球環境變化與生態系統管理、環境恢復與生態工程、環境永續性、健康與環境、廢水和污泥處理、空氣污染和控制、固體廢物管理、水處理和回收等議題。

此次進行口頭報告的題目是 Green Driving: Fuel Efficiency of Various Automobile Types，除了會中的提問與回答之外，會後也與各國學者互相討論，而提問的學者往往都非自己本身研究領域，提出的問題看法也都不相同，但由此種情況，可以增加後學與世界不同領域的最新研究接軌。

這是後學第一次參加國際研討會，非常感謝科技部的補助，使我能夠有機會與相關領域及跨領域的學者有交流的機會，有助於我未來在廣泛的社會科學領域持續精進研究，並和相關工作的研究人員及從業人員之間建立長期的互動，結合對環境和永續發展以及新能源和應用的共同知識，以利未來進行跨領域研究與結合。