

# Technical Efficiency (TE) in Malaysia Electric and Electronic Manufacturing Industry: A Stochastic Frontier Analysis (SFA) Approach

Norayati Hashim <sup>a</sup>, Mohd Fahmy-Abdullah <sup>b</sup>

<sup>a</sup>Faculty of Technology Management and Business, Universiti Tun Hussein Onn Malaysia, 86400 Parit Raja, Batu Pahat, Johor, Malaysia

<sup>b</sup>Faculty of Technology Management and Business, Universiti Tun Hussein Onn Malaysia, 86400 Parit Raja, Batu Pahat, Johor, Malaysia

[https://doi.org/10.35609/gcbssproceeding.2021.1 \(98\)](https://doi.org/10.35609/gcbssproceeding.2021.1 (98))

---

## ABSTRACT

---

The Electric and Electronic (E&E) manufacturing industry is becoming more important for Malaysia economy that contributes to the Gross Domestic Product (GDP) and provide huge in job creation. Hence, real GDP grew at an average rate of 6.1% per year over 1970 to 2018 period, higher than the average growth of the advanced countries (OECD Economic Surveys: Malaysia 2019, 2019). Furthermore, Malaysia is a major player in the fast-expanding E&E market, of which major export destinations include Singapore, Hong Kong, the USA, PRC, Japan and Europe. In 2019, 37.8% of Malaysia total exports were from E&E industry, which accounted for RM372.67 billion worth of exports or 44.7 per cent of all manufacturing goods exported (MITI, 2019). However, the E&E manufacturing industry is fluctuating and was inconsistent in Malaysia (MITI, 2014). Furthermore, the external environment continued to be affected by global economic uncertainty in 2012, dampening demand for the E&E manufacturing industry exports to decrease by 2.5 percent to RM231.2 billion and had an impact on the labour market with total retrenchments increased by 35.2 percent to 7616, due mainly to higher layoffs in the manufacturing industry (MITI, 2012). This effect is due to the sovereign debt crisis in Europe, the United States (US) economic recovery was modest, dampened by both domestic and external weaknesses and the stagnant economy in Japan had an impact on the export performance. In addition that growing competition from manufacturers in developing economies such as China and ASEAN member countries, particularly in higher value-added assembly (Bank Negara Malaysia, 2012). Hence, Malaysia economic landscape year 2012 became more challenging to uncertainty affected by an increasingly competitive global environment

**Keywords:** Technical Efficiency, Electric and Electronics, Stochastic Frontier Analysis (SFA), Translog, Panel Data