

## Analysis the efficiency and productivity of indonesian pharmaceutical public companies using data envelopment analysis / Dewi Hanggraeni

Dewi Hanggraeni, author

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### Abstrak

As one of the biggest medicines market in the South East Asia, the pharmaceutical industry in Indonesia has a huge potential market. However, the majority supply of raw materials has been imported. Besides, regulations of the Health Ministry and the Trade Ministry have still hampered most players in Indonesia pharmaceutical industry. Therefore, this study used Data Envelopment Analysis (DEA) models to analyze efficiency and productivity change in the Indonesian pharmaceutical industry between 2006 and 2011, listed in the Indonesia Stock Exchange and also supported by applying efficiency financial ratio. This study finds that the decision for the most relatively efficient company is different using DEA compared to efficiency financial ratios, yet DEA has better measurement of efficiency. It is proven by one of State-owned Enterprises has been evaluated underperformed by the financial ratio analysis, unexpectedly is efficient using the DEA approach. This study has also proposed and tested a hypothesis on the average efficiency to check if the domestic and foreign pharmaceutical companies differ in their efficiency but the result implies that there is no significant statistical difference among them. This study indicates that firms having dominant contribution in selling over-the-counter medicines are more efficient than selling ethical medicines. Lastly, technological change contribution has more influence to productivity change instead of pure technical efficiency change in Indonesia pharmaceutical companies.