

## Abstract

The objective of this research is to analyze the costs and feasibility of constructing cleaning facility (Cleanroom) for Hard Disk Drive manufacturing company by evaluating two options. First, the company will invest in the building and operating costs the Cleanroom themselves. Second, the company continues to outsource the cleaning operations to external suppliers without building the Cleanroom. This research focuses on major factors contributed to costs. Thus, we employ simple linear regression method to estimate number of cleaning suits based on the anticipation of increasing demand over the next 10 years. Next, we study the layout and necessary cleaning processes under Cleanroom's Class100 standard. Then, we perform cost analysis of these two options. The sensitivity analysis is also applied to see the impact of uncertainty on the investment decision. The results are 34.66 million baht over 10 year period for Net Present Value (NPV), 6 years for Payback period, 1.59 for Benefit Cost Ratio (BCR), and 45.60% for Internal Rate of Return. These values clearly indicate that the investment of constructing Cleanroom suit cleaning facilities is recommended.