

## **A sensitivity analysis of performance measurement in the product line management**

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### **Abstract**

Our study aims to investigate the sensitivity of product efficiency for a firm's product line management. Initially, we conduct the measurement of performance for product groups and individual products using the data envelopment analysis (DEA). Then, we will investigate the sensitivity of each of input and output elements. The data that we hold represent one time measurement, which can be more or less different when we measure another time due possibly to randomness in operations or measurement mistakes. Hence, our sensitivity analysis assuming some variations in each component might help the firm understand the functionality of each factors used in the input and output variables and its operations better. Some difficulty of our study is the fact that we are deficient in statistics necessary for our study like standard deviation of each element since the data was obtained from a single-term observation. To overcome the deficiency issue in our study, we will explore sensitivity of individual factors through experimental design.