

Unchitha Kachawong 2011: A Simple Efficient Selection Model to Set Boundary Sample for Multiple Criteria Alternatives. Master of Engineering (Engineering Management), Major Field: Engineering Management, Department of Industrial Engineering. Thesis Advisor: Assistant Professor Juta Pichitlamken, Ph.D. 120 pages.

Decision making when faced with several alternatives is not simple. At an automobile manufacturer, the review boundary sample activity for reducing cost and maintaining the best quality for customers is quite complex; it requires criteria-based judgments, e.g., defect ratio and claimed history of customers' parts. This study will propose a decision support system for this multiple criteria selection problem. The system applies Analytic Hierarchy Process (AHP) techniques, which enable this problem to be solved without an optimizer. At the normal work, the questionnaires were used to survey quality control engineers and to determine the weights of the criteria. With this system, an automobile manufacturer can collect data and use it to consider the selected alternatives (proposals). Even a new or an inexperienced engineer can use this system to identify the best selection and ensure objective selection. In addition, this system can reduce decision making time from two – three days per proposal to 5 minutes per proposal.

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Thesis Advisor's signature

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