

ABSTRACT

Alternative Strategies for Replacement  
Of Plant And Equipment

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In this project a literature survey was done to identify and review the numerous models and techniques that have been developed to facilitate good decision making on replacement of plant and equipment. The approach adopted on equipment replacement decisions in Trinidad and Tobago was then examined, by conducting a sample survey of firms associated with the oil sector of Trinidad and Tobago. This gave an indication of the practice in the local industry.

It was found that the simple rule of thumb model (replacement heuristics) was used more frequently than any other replacement model. The results also revealed that quantitative analyses utilizing mathematical programming and life cycle costing models were seldom used in replacement decision making.

A replacement methodology was then developed and its application illustrated in decisions to replace motor cars in a local company. This required the development of a Replacement Model to provide a quantitative basis for replacement decisions. The Replacement Model involved calculation of the Annual Equivalent Cost of a vehicle over its anticipated useful life. For the particular case chosen, it was found that the vehicle should be replaced after two (2) years.

Successful implementation of the proposed methodology would require support from top management and the involvement of the engineering managers in the various functional areas.