

TAWATCHAI HARNCHARNCHAI : AN ENGINEERING ECONOMIC ANALYSIS FOR SETTING  
UP A NEW PLANT IN SMALL-TYRE INDUSTRY. THESIS ADVISOR : ASST. PROF.  
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The research is an engineering economic analysis for setting up a new plant in small-tyre industry. The research is to study and analyze various factors of a sample factory. These factors will be used as guidelines or as a model for establishing new plants. The study also investigates optimal conditions for the plants, consequences of economics and investment.

Using data from the sample factory, we can summarize factors which influence the setting up of new factory as follows : management factor, organization, personel, layout, working conditions, location and machines capability, etc. Such factors are important variables for management and operation in the sample factory. From the study and analysis of these factors, guidelines and suggestions, in terms of appropriate site, investment, organization and management, could be determined.

Concerning economic and investment, assuming a 10 year-period of study we estimate that the total investment of the project should be 179,279,000 baht, the optimal plant capacity of tyre and tube is  $1.2 \times 10^6$  and  $2.8 \times 10^6$  pieces per annum respectively. Rate of return can be summarized as follows:

Rate of Return of total investment after tax = 31.37% p.a.

Net Present Value before tax = 255,338,000.- Baht

The Feasible Zone of projects = ± 20.24%