

C716320 : MAJOR INDUSTRIAL ENGINEERING

KEY WORD:

BANCHA KUHAKARN : CAPACITY DETERMINATION OF PRODUCTION AND DEMAND FOR SETTING UP THE STYRENE MONOMER PLANT. THESIS ADVISOR : ASSO. PROF. VANCHAI RIJIRAVANICH, Ph. D. THESIS CO-ADVISOR : ASSI. PROF. SUTHAS RATANAKUAKANGWAN, 181 pp., ISBN. 974-635-166-4

The purpose of this thesis is to determine the production capacity and demand for setting-up the styrene monomer plant. It's scope covers the study of raw material , marketing , investment. Moreover, the economic and environmental effect are also included.

This research has compared three size of capacities including 120,000 , 160,000 and 200,000 tons/year . The results of the study indicated that the production capacity at 200,000 tons/year is the most appropriate size due to the following criteria : (1) minimum unit cost , (2) maximum profits , (3) maximum Internal rate of return , (4) maximum net present value , (5) short payback period . Moreover it will increase job opportunity and decrease trade deficit.

At this capacity , the economic index are as the following.

Internal Rate of Return	31 %
Net Present Value	2,292,890,167 Baht
Benefit-Cost Ratio	1.91
Payback Period	5.72 years.

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