
Title: In-House Processing Versus Subcontracting in the Semiconductor Industry

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Abstract: The semiconductor industry is going through a change in their mode of operation. Due to increased complexity of the processes, short life cycles of processes and extremely high capital requirements, subcontracting has become a very attractive option for a number of key processes. Subcontractors can afford to concentrate on just a few processes to reduce costs by combining the volume from several customers. In order to make a rational decision regarding subcontracting, it is necessary to consider all the factors that affect the current as well as future operations of the company. Basically there are financial factors defined as capital requirements, fixed costs and variable costs. In addition, there are socio-economic factors which have been placed in the following categories: 1) Personnel Impact; 2) Community Impact; 3) Quality Control; 4) Production Control; 5) Strategic Alliance Issues; 6) Relationship to Core Business and 7) Life Cycle of Process. The purpose of this study was to come up with a model that will consider these factors and perform case studies to verify the efficacy of the model by comparing what the model suggested with the actual outcomes in each case.