Appling Concurrent Engineering in New Product Development Process－using IC design industry as an example

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ABSTRACT

During the recent years, the semiconductor industry in Taiwan has experienced astrong blooming. The Integrated Circuit Industry (IC Industry) is essential economic lifeblood in Taiwan. The characteristics of the IC industry include high investment cost, technology-intensive, high equipment depreciation and intensely competitive environment. In the competitive environment, the manufacturing companies must focus on the requirements of the customers, short time-to-market, superior product quality and reducing manufacturing cost. According to the past study, R&D will take an expenditure of fifty percent to ninety percent of the whole product life cycle. For considering product design, manufacturing and assembly, it will improve the communication and coordination in the concurrent engineering environment, and reduce the engineering design change. Concurrent engineering is a systematic approach to the integrated, concurrent design of products and their related process. The main work content of the study is to do a comprehensive study on the IC design industry. This study attempts to investigate the impact of concurrent engineering, and new product development management, on IC development performance.131 questionnaires were issued and 45 were effective. Research methods such as canonical account analysis, correlation analysis… were conducted. The study concludes: 1. Concurrent engineering has a positive impact on IC development performance. 2. New product development management has a positive impact on IC development performance. 3. Concurrent engineering and New product development management has a positive impact on each other.

Keywords : Concurrent engineering ; New product development management ; Development performance

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