A Modeling of Predicting Success and Failure of New Product Development in Korea

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This thesis contains two major objectives. The first is to analyze the structure of successful N.P.D.(new product development) which has been established for the last few years in the electronics industry in Korea. The second is to examine the causal ralationships among information sources, development stages and factors to success and faliure in technology innovation.

In addition, this study ultimatily aims at constructing a model of predicting success and failure of N.P.D. which can help managers control the technological innovation more effectively.

After reviewing the previous literatures, various factors closely related to N.P.D. were identified and the conceptual model was derived. This study mainly deals with three aspects of N.P.D: information sources, development stages and factors to success and faliure in N.P.D..

The enqûete survey was then conducted for the project managers who were asked to respond to 75 questions. The sample size is 443 cases which consists of 245 successes and 198 failures.

Various statistical methods such as cross-tabulation analysis, t-test, correlation analysis, factor analysis, discriminant analysis, canonical correlation analysis, multi-regression analysis, path analysis were employed to analyze the data for this study.

The major findings of this study can be summarized as follows;

There are three findings in the discriminant analysis:

(1) The more important discriminant sources of N.P.D. are 「information about the activities of foreigen advanced companies」, 「new patents and scientific information」, and

the important discriminant sources of N.P.D. are 「information about interviewing customer needs」, 「information from forcasting technological environments」,

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「information from investigating product claims」, 「opinions of external adviser」.

(2) The more important discriminant factors of N.P.D. are 「adequacy of commercialization timing」, 「stability of market needs」, 「marketing capability」, 「cooperation between related department」, and the important discriminant factors of N.P.D. are 「desire for completing development」, 「secure of market competitiveness」, 「establishment of management system for development」, 「secure of superiority product technology」.

(3) The more important discriminant stages of N.P.D. are 「analysis of ideas」, 「development and field trial」, 「production and commercialization」, and the important discriminant stage of N.P.D. is 「preliminary assessment of market potential」.

This research has also resulted in establishing cause and effect structures for the effective and successful management of N.P.D.. The structures selected as follows:

(1) The influence of the causes and effects on the success of the 「stage of preliminary assessment of market potential」 depends on the impact of 「information about the activities of foreign advanced companies」 on 「secure of superior product technology」.

(2) The influence of the causes and effects on the success of the 「stage of development and field trial」 depends on 「adequacy of commercialization timing」.

(3) The influence of the causes and effects on the success of the 「stage of production and commercialization」 depends on the impact of 「information about interviewing customer needs」 on 「cooperation between related department」.

In conclusion, the new observations in this research clearly explains the differences between the new product development structures in Korea and those in advanced countries like Japan or the United States.

The major findings in this study will be very helpful in developing strategic and managerial system for N.P.D. in Korea.

But these findings should be taken with a grain of salt, since there are several some limitations in the measurements and sampling method employed in this study. Further researches are recommended with more elaborated methodologies, and more suitable samples concerning N.P.D. in future.