CHAPTER - 9

MULTIVARIATE ANALYSIS TO IDENTIFY FACTORS INFLUENCING SUCCESS OF ORGANIZATIONS

9.1 INTRODUCTION

9.2 METHOD

9.3 ANALYSIS

9.4 RESULTS AND DISCUSSION

9.5 CONCLUDING REMARKS
9.1 INTRODUCTION

In order to identify the various factors that influence the indicator of success (Return on asset), stepwise multiple regression method is used in this chapter.

9.2 METHOD

The stepwise multiple regression method was used (i) To identify the factors grouped under the seven variables of the proposed model that were responsible for significant variation on the dependent variable Return on assets. (ii) To find out the extent of influence of these factors on the dependent variable Return on assets.

The value of $R^2$ was taken as a measure of total variance induced on dependent variable by the factors of independent variables. The significance of $R^2$ was tested by the F-test. In the final equation, for each beta coefficient, the t-statistics was calculated to test the statistical significance.

9.3 ANALYSIS

As a first step, five year's (1991-1996) average return on assets of each organization was fitted into interval scale consisting of five points (Appendix - III). Leaving out strategy, which is in the nominal scale, all other variables were taken up one by one for analysis. The factors under each variable were subjected to various analysis separately with the dependent variable Return on assets.
9.4 RESULTS AND DISCUSSION

The factors namely Risk taking, Technocracy and long range planning, Structuring of activities and Participation grouped under the variable 'style' were subjected to regression analysis against the dependent variable Return on assets. Results (Table 9.1) show that Risk taking and Technocracy and long range planning account for 18% variation on the dependent variable (Return on Assets) which indicates the performance of organizations.

Structural factors such as Formalization, Stratification, Complexity and Centralization were taken up and subjected to regression analysis with Return on Assets. None of the factors influence the dependent variable Return on Assets. In the third group, Skill factors namely General Management, Financial Management, Marketing Management, Market Research, Product Research, Production Facilities, Engineering, Distribution, Legal and Personnel were subjected to regression analysis with Return on Assets.

Perception of Skill by the respondents in Financial Management influenced the performance of organizations to the extent of 21%. The influence of the fourth group namely System adaptiveness and Organizational commitment on Return on assets was found to be negligible. Finally, the factors under the variable Organizational culture namely Autonomy, Authority - Responsibility match, Support, Identity with organizations, Performance reward, Risk tolerance, Conflict tolerance were subjected to regression analysis with financial indicator Return on assets. Performance Reward had 15% influence on the financial performance of the organizations.
9.5 CONCLUDING REMARKS

From the stepwise multiple regression analysis performed on the variables, it is observed that the factors namely Risk taking, Technocracy, Skill in Financial Management and Engineering And Performance Reward were found to be significantly influencing the success indicator of organization namely Return on Assets. In order to confirm the level of influence of the independent factors on success of organizations, discriminant analysis was carried out in the next chapter.
Table 9.1 Summary of stepwise multiple regression analysis for organizational success with different sets of prediction variables for the engineering organisations

<table>
<thead>
<tr>
<th>Criterion variable</th>
<th>Analysis set</th>
<th>Predictor variables considered for regression</th>
<th>Predictor variable entered (in order of entry) for set cut off value, significance test for final equation</th>
<th>Multiple correlation and adjusted R² for degree of freedom in paranthesis</th>
<th>F value after each set</th>
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