

Abstract

The paper aims at finding the applicability of Cluster Analysis technique to find possible segmentation of nifty stocks and its impact on investment essentially its applicability for portfolio diversification. The goal of diversification is to reduce the risk involved in an investment and yet by retaining same return. In this analysis we are aiming to address this issue by using Cluster Analysis. The technique involves finding various cluster of stocks listed under Nifty, the analysis is based on last two year's data on all the stocks listed under the index. Two type of clustering techniques are used, Hierarchical and Non-Hierarchical clustering technique. Selection of optimum clusters is done by using dendrogram analysis for Hierarchical clustering and by using Scree-Plot for Non-Hierarchical Clustering. The clustering algorithm used for the latter case is K-Means Clustering. Based on these, two different type of portfolios are formed. Also another portfolio is formed taking top 10 performing stocks in the market in order to make a comparison between these portfolios. The performance matric used here is the average daily return and the volatility of the portfolio. Result showed that both Portfolio 1 and 2 gives close return as compared to Portfolio 3, consisting top 10 stocks in the market. However they showed much less volatility. It clearly indicates that Cluster Analysis can be used for Portfolio Diversification. However this analysis is useful essentially for short run investment perspective, for long-run investment decisions various fundamental analysis techniques must be clubbed along with this technique.