Human Resource (HR) is one of the important aspects for any organization to accomplishing its management tasks in an effective manner. In this research, three human resource factors were studied and analysed for their impacton project performance. These factors are chosen on the basis of project natureand these factors are Leadership, Training &Compensation. The objectives of this research is to check the impact and significant correlation of leadership, training and compensation on the project performance also to find out the reasons of delay and how to boost-up the performance of this project.

The case project has been delayed by 1.5 years. There is need to increase the efficiency of this project by addressing the three factors and analysing their significant correlation and impact on the project performance. Data was collected through questionnaire from companies who formed joint venture for this project and their departments specially HR department and different engineering departments which are working together on this project.

This project needs strong leadership, effective training and comparatively high compensation for success. The results were described by using descriptive statistics, check the validity through reliability analysis, analyzed by Factor Analysis using Principal Component Analysis, Bivariate Correlation among the independent variables (Leadership, Training and Compensation) and dependent variable (Project Performance) and Regression analysis which shows results was reliable andmodel was best fit because the factors have a positive significant impacton the performance of the project. The multiple regressions shows the significant impact of independent variables (Leadership, training and Compensation) on dependent variable (Project Performance).