

MULTI CRITERIA DECISION ANALYSIS (MCDA) AS PROGRAMME MANAGEMENT TECHNIQUE IN DESIGN & DEVELOPMENT OF ADVANCED FIGHTER AIRCRAFT DEVELOPMENT

C. S. Ananda¹, H M Nanjundaswamy² & B. Ashok³

^{1,3}Research Scholar, Aeronautical Development Agency, Bangalore, India

²Professor, Industrial and Production Engineering, PES College of Engineering, Mandya, India

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ABSTRACT

The Design & Development of Advanced fighter Aircraft is quite complicated. Nowadays military aircraft, like any other engineered products, are required to be produced with a shorter product life cycle at lesser costs which would also be of huge benefit to the country's security apart from lowering the costs of development and incorporating the current technologies.

Programme Management Plays a vital role in successful design & development of Advanced Fighter Aircraft. The management of the project has three main considerations: performance, time and cost. Unfortunately, many of our projects are not completed in time due to technological complexities, uncertainties, and risks inherent in R&D work and dynamics of technology control regimes. Delays cause cost overruns and loss of opportunities. It is inconceivable that a program of this complexity can be run efficiently without the assistance of professional programme management. It is necessary to adopt programme Management Techniques for the entire product life cycle to meet the performance requirements within the Budget & schedule.

From the research & experience, it is evident that multiple criteria are involved in the design & development of Complex Advanced Fighter Aircraft. These criteria could be in terms of Goals to be achieved and also key success factors which are required to achieve the stated goals. It is necessary to adopt suitable execution model, which would provide key success factors to realize the goals for the design and Development of Advanced Fighter Aircraft. Suitable Programme Management technique is required to identify the most preferred execution model which would address multiple criteria. In this paper, an effort has been made to devise a suitable programme management technique by utilizing MCDA /AHP which would help the programme Manager to identify/select the most preferred execution model from the proposed feasible execution models.

KEYWORDS: Military Aircraft, Programme Management, Cost, Schedule, Performance Requirements, Multiple Criteria, Eigen Vector, MCDA, AHP