

MULTI-ATTRIBUTE DECISION MAKING APPROACH TO MACHINE SELECTION IN FLEXIBLE MANUFACTURING CELL

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Abstract

The successful system design of FMC (Flexible Manufacturing Cell) depends on the choice of machines, buffers, transport system, operators, maintenance personnel and so forth. The decision maker has to minimize the proposed system and operation cost, maximize system flexibility to meet the projected production requirements on time there by maximizing the productivity. This paper proposes a simple and effective solution by using Multi - Attribute Decision Making (MADM) method to help the decision maker to solve one of the important problems of the design of FMC i.e., the machine selection problem. The proposed procedure integrates the requirements with all the attributes of available alternatives and selects the best alternative.

Key Words: Flexible manufacturing cell (FMC), Machine selection, Decision model, Multiattribute decision making (MADM).