

A STOCHASTIC MODEL BASED ON ORDER STATISTICS FOR ESTIMATION OF EXPECTED TIME TO RECRUITMENT IN A TWO GRADE SYSTEM WITH TWO TYPES OF THRESHOLDS

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Abstract

In this paper, a two-graded organization subjected to exit of personnel due to policy decisions taken by the organization is considered. Based on shock model approach, two mathematical models are constructed using an univariate policy of recruitment by associating optional and mandatory thresholds for the loss of manpower in each grade. The analytical expressions for the mean and variance of the time to recruitment are obtained when (i) the loss of manhours form a sequence of independent and identically distributed exponential random variables (ii) the inter-decision times form an order statistics and (iii) the optional and mandatory thresholds are independent exponential random variables. The results are substantiated with numerical illustrations.

Key Words : *Manpower planning, Shock models, Univariate recruitment policy, Order statistics, Mean and variance of the time to recruitment.*