EVALUATING THE CHOSEN POPULATION: A BAYES AND MINIMAX APPROACH*

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One of K populations is chosen according to some given selection procedure. Population i has the parameter θ_i associated with it. The θ value for the chosen population is to be estimated using only the data on which the selection was made. Some general results relating to Bayes and minimax rules as well as the minimax value are obtained. Applications of these results to particular problems are given.

1. Introduction.

One is often faced with the problem of having to choose one of a

number of options. Once data are collected and criteria established the

selection rule is usually straightforward. More often than not the selection

procedure will be a simple function of the order statistics. For example, a

manufacturer would simply select the machine from among K machines that was most

productive during some trial period. It is often important to be able to say

something about the likely result of the chosen option. The above manufacturer

would want an estimate of the expected mean output of the selected machine.

From a practical point of view the main concern in problems such as

these is the possibility of overestimation if only data from the chosen