

Generalized Subset Selections for Normal Populations

Yi-Ping Chang^a, Wen-Tao Huang^b

^a *Department of Business Mathematics, Soochow University, Taipei, Taiwan, R.O.C.*

^b *Department of Management Sciences, Tamkang University, Tamsui-251, Taiwan, R.O.C.*

Abstract:

In this paper, we propose and study a generalized subset selection procedure for selecting the best population. Based on the concept of generalized subset selection procedure, some selection procedures for normal populations are proposed and studied. They are used, respectively, to select the best population (populations) with respect to the largest mean, the largest p th quantile and the largest signal-to-noise ratio. For the case of common unknown variance, the proposed generalized subset selection procedure for selecting the largest mean becomes exactly the same as that has been given in Hsu (in: T.J. Santner, A.C. Tamhane (Eds.), *Design of experiments: Ranking and Selection*, Marcel Dekker, New York, 1984, pp. 179-198). A Monte Carlo study shows that the proposed generalized subset selection procedure behaves satisfactorily. An illustration of a set of real data is also given.