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Empirical Bayes two-stage procedures for selecting the best Bernoulli population compared with a control. (English) [Zbl 0788.62010](#)

Gupta, Shanti S. (ed.) et al., Statistical decision theory and related topics V. Proceedings of the fifth Purdue international symposium on statistical decision theory and related topics held at Purdue University, West Lafayette, IN (USA), June 14-19, 1992. New York: Springer-Verlag. 277-292 (1994).

Summary: The problem of selecting the population with the largest probability of success from among $k(\geq 2)$ independent Bernoulli populations is investigated. The population to be selected must be as good as or better than a control. It is assumed that past observations are available when the current selection is made. Therefore, the empirical Bayes approach is employed. Combining useful information from the past data, an empirical Bayes two-stage selection procedure is developed. It is proved that the proposed empirical Bayes two-stage selection procedure is asymptotically optimal, having a rate of convergence of order $O(\exp(-cn))$, for some positive constant c , where n is the number of past observations at hand.

For the entire collection see [\[Zbl 0782.00068\]](#).

MSC:

[62C12](#) Empirical decision procedures; empirical Bayes procedures

[62F07](#) Statistical ranking and selection procedures

Cited in **2** Documents

Keywords:

largest probability of success; independent Bernoulli populations; better than a control; empirical Bayes two-stage selection procedure; asymptotically optimal; rate of convergence