

Sequential Selection of a Quality Group

Ester Samuel-Cahn
The Hebrew University of Jerusalem

In many situations, the decision maker observes items in sequence and needs to determine whether or not to retain a particular item immediately after it is observed. Any decision rule creates a set of items that are selected. We consider situations where the items are i.i.d., under two scenarios: 1. The available information is only the rank of the present observation, relative to its predecessors. 2. The values of the random variables themselves are sequentially observable. Certain "natural" selection rules are investigated. Theoretical results will be presented, pertaining to the evolution of the number of items selected, measures of their quality and the time it would take to amass a group of a given size.



Dr. Ester Samuel-Cahn is currently Professor Emeritus in the Department of Statistics at The Hebrew University of Jerusalem. Because of her far reaching contributions to the statistics community, as well as her pioneering work in sequential analysis, an international conference was recently held in honor of Ester Samuel-Cahn, Jerusalem, December 18-20, 2006, titled "The Book of Ester Samuel-Cahn: from Empirical Bayes to Prophet Inequalities." Her achievements have earned her worldwide recognition and numerous awards, including the Israel Prize in Statistics (2004), elected membership of the Norwegian Academy of Sciences and Letters, and elected President of the Israel Statistical Association (1993-1995). Dating back to 1962 to most recently in 2007, she has published 78 refereed research papers, most of which have appeared in the top-tier statistics journals, such as, *Journal of the American Statistical Association*, *Journal of Statistical Planning and Inference*, *Journal of Applied Probability*, *Statistics and Probability Letters*, *Journal of Multivariate Analysis*, *Journal of the Royal Statistics Society*, *Sankhya*, and *Sequential Analysis*, to name a few (in no particular order). She was elected a Fellow of the IMS in 1972, Fellow of the American Statistical Association in 1989 and served as Council Member of Bernoulli Society between 1971 and 1975. She has also been the Coordinating Editor of the *Journal of Statistical Planning and Inference* (1998–2002) and the Regional Editor of the *Statistical Theory and Methods Abstracts* (2000–2004).