

A/Prof Robert Clark, CSSM

Title: The Art and Science of Sample Design

Abstract: The sample design is a plan for selecting a sample of units to be surveyed, usually by some form of random sampling from a population. Choice of a sample design has been expressed mathematically as an optimisation problem, but developing a sampling plan in practice is as much a craft as a science. Factors which need to be considered include balancing multiple objectives, imperfect design information, the practicalities of administering the survey by interview or other means, and incompleteness or inaccuracy of the sampling frame. The art and science of sample design, and some current trends in household and business survey sample design, will be reviewed. New research on fully exploiting but not over-exploiting inaccurate design data will also be presented. This will be a practice for the Statistical Society of Australia 2011 Ken Foreman Lecture which will be presented in Canberra on 25 October.