

Contributions to Randomized Response Models

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Abstract

Randomized Response (RR) Technique first introduced by Warner(1965) is a research method intended to measure the behavior, opinions or attitudes of the respondents towards sensitive topics (such as criminal behavior, drug abuse and customary marriage). The RR technique allows respondents to answer sensitive questions while maintaining their privacy through randomizing their responses according to some random mechanism. Variations of the.

RR technique were then developed in a trial to improve Warner's model In this study, four randomized response models are proposed in an attempt to obtain more efficient estimators of the population proportion possessing a sensitive attribute and at the same time, increase the respondents' cooperation. Two of the proposed models are based on the idea of using two decks of cards that was proposed by Odumade and Singh (2009) but with different structure for the statements used in the decks. The other two proposed models combine the idea of using two decks of cards together with the use of a two stage RR procedure. Empirical studies are undertaken to examine the efficiency of the proposed models. The proposed models can be easily adjusted to be more efficient than previously developed randomized response models. Moreover, comparisons between the proposed models are performed

Keywords: Estimation of proportion; Randomized response technique; Two decks of cards; Two stage randomized response procedure.