An R Shiny Application for Audit Sampling with AI-Assisted Generation

Abstract

Statistical sampling is a core component of audit work, requiring methodological rigor, transparency, and reproducibility. This presentation introduces an interactive R Shiny application designed to support audit sampling processes by combining classical statistical methods with artificial intelligence–assisted guidance.

The application allows users to select sampling methodologies commonly used in auditing—such as random sampling, stratified sampling, and monetary unit sampling—while dynamically generating sample sizes, selection outputs, and methodological explanations. Artificial intelligence is incorporated as a decision-support component, providing contextual guidance, parameter explanations, and narrative support without replacing the underlying statistical logic.

The presentation emphasizes how interactive tools can improve consistency, documentation quality, and methodological clarity in audit sampling, particularly for practitioners who are not specialists in statistics. The session is aimed at statisticians, auditors, and public-sector professionals interested in applying transparent, reproducible, and AI-assisted tools to strengthen evidence-based audit practices.