

Economic arguments for representative sampling

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"A loss of a money is a certainty if the responsible entities have not made sure that *all* sampling and analysis performed to produce decision making information is representative. It is as simple as that..."

Sampling educator (2020)

A complaint has recently surfaced from the more business-oriented world that the sampling community mainly furthers "technological" arguments for engaging

with proper sampling: "the Theory of Sampling (TOS) is all very fine, but it doesn't sell many tickets where it really counts, at CEO levels or higher (board of directors, investors, bankers). At this level decision-makers do not have the time, or cannot (or will not) make the effort to understand a **theory**." While seriously flawed and superficial, this opinion is nevertheless widespread, and especially so in those top-level decision-making circles where the sampling community would dearly like to make

a greater impact! So, sensing a marketing scoop, the Column Editor has asked a distinguished group of TOS illuminati to address this economics issue head on. What follows below is the definitive collection of "business arguments for the TOS", writ large. So, read this column carefully—and forever hold your peace!

The challenge

What is the best way to engage anyone who has never given much thought to **why** representative sampling is

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critically important for most endeavours in science, technology, industry, commerce, trade and society? This is in fact a standard topic within the sampling community itself: "What is the best way to promote the TOS—not only as a theory, but as a *practical tool* to help customers? Indeed, as a critical tool that will have a significant impact on the bottom line!"

The latter casts the issue into a rather direct format: "How to *sell* TOS-compliant equipment, system solutions, consulting and audit services to customers with only little, or **no**, familiarity with the need for proper sampling?"

Ever since the inception of the TOS (in 1950) there has been a healthy discussion about this issue, about which

opinions are often sharply divided. There are traditionally two types of answers: the business argument "You stand to lose a lot of money **if you don't...**"; or the technical argument: "You need to understand these critical aspects of TOS, **or else...**".