Statistical Inference:

Time to Re-Think Statistics and Confidence Levels in Our Industry?

Mike Hess
CRE
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Background

- Under the Old Rules, it was important to have very high levels of precision (as measured by Type I error)

- Especially in Currency Matters

- After all, if a rating was 10.0 rather than 9.0, could charge 11% more

- Although survey research has always been with us, with its 95%, 90%, and even 80% confidence levels, there is currently even more of an overlap due to Internet measurement and the presence of multiple touchpoints

Semiotics

Green and Tull, in *Research for Marketing Decisions* said there was a Semiotics for Marketing Science

 We have focused primarily on applications (Pragmatics)

     - Syntactics (rules of science)
     - Semantics (operational definitions)
     - Pragmatics (translating science to real world apps)

Time to Re-Think?

Yes, IMO

Different measurement issues including apparent need to "model" rather than actual "test" control level in some cases (example: Smart Control by ComScore models the zero level)

Presence of survey research (e.g., Millward-Brown, Insight Express etc.) brings new measures to more holistic data space

Existence of 30, 40, even 60 touchpoints means that we need to account for Interactions too

Tomorrow's Data Sets

No Longer as Linear (or S-shaped curvilinear) as typical relationships between GRPS and AW

Prevalence of Dashboards Encourage What-If?

Not just two-way interactions (TV x Print) but multi-way (TV x Print x Display x Search) leading to Emergent Processes (Complexity Theory)

Some relationships might depend on small changes in size of independent variables, such as with Social Networks (Chaos Theory/ Fractals)

Recommendation

Form Industry exploratory committee to re-examine statistical foundation of media and advertising

Much already being done informally, but time to put it out in the open to avoid situations like: "well at our place, we still use the 95% level for all of our decisions"

When, IMO, all decisions need to be contextualized by the tradeoff between Risk and Reward for every situation (when 99, 95, 80…even 70%?)

Beyond this, need to determine when newer disciplines of Complexity and Chaos apply