



Analysis & Inference Inc.
Statistical Consulting Services

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EXPERIENCE

Analysis & Inference, Inc., CEO, 2008-present and 1991-1995

Analysis & Inference, Inc. provides authoritative research and consulting services in statistics nationwide to corporations, government agencies, and organizations. The firm is skilled at presenting complex ideas to non-experts. Capabilities include statistical modeling and analysis of data, data mining, probability, sampling, statistical significance, validity and reliability, forecasting and time series, quality control, survey and experimental design, regression. Principal topic areas have been surveys, discrimination, insurance, healthcare, theft and fraud, risk analysis, product liability, telecommunications, commercial litigation and damages, public policy, and education.

Quantitative Analysis, Inc., Principal, 2000-2008

Founder and Principal of a consulting company that specializes in quantitative analyses of complex data through statistical sampling, modeling, and estimation techniques.

Clients include: U.S. Geological Survey; City of New York ; Pfizer

KPMG LLP, Practice Leader, Quantitative Analysis Group – New York, 1996-2000

Established and led the New York office of KPMG's Quantitative Analysis Group. Built a consulting practice with annual revenues of \$4 million.

Morgan Stanley, Associate, 1988-1990, 1995-1996

Performed statistical modeling and software design.

ENGAGEMENTS

- On behalf of several state public service commissions, directed data analysis and statistical design in a series of tests of Bell South, Verizon, SBC-Ameritech, and Qwest. Beginning in 1998, developed software and procedures for calculating performance metrics and evaluating the competitive environment. Testified before several state public service commissions, including New York, Virginia, Florida, Michigan, and Colorado.
- In a series of matters on behalf of the law department for a major city, created and analyzed a massive real estate database, modeled market and sales values, and wrote expert reports to determine potential biases of alternative methods of valuing commercial real estate. Determined the validity of assumptions about lease lengths, turnover rates, and other issues affecting rents and property values.

New York • Philadelphia • San Jose

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- For large direct market publisher, improved customer response modeling while reducing the costs of test marketing. Overall test marketing was reduced by combining data for various market segments. This method also increased the precision of the scores assigned to customers concerning their propensities to purchase individual books. These improvements were expected to lead to cost savings and revenue improvement totaling about \$1 million annually.
- For hedge fund, performing an ongoing series of projects related to pricing risk and return of various investment options. Using standard and proprietary statistical techniques and software, developing models to select appropriate investment funds according to risk and term of investment.
- For major pharmaceutical company, analyzed company and external marketing data to determine reliability and potential biases in using external data sources. Analyzed physician-specific data for a period of 36 months concerning product marketing to approximately 1 million prescription drug subscribers.
- Modeled television audience ratings to determine the Public Broadcasting System's share of cable royalty distributions. Used statistical methods to determine a reliable estimate of PBS's cable royalty share. The estimate resulted in a multi-million dollar decision in favor of the Public Broadcasting System by the Cable Royalty Tribunal.
- Lead statistician in the design and implementation of a sample of all personal property and equipment on behalf of the United States Internal Revenue Service. The population of interest involved more than one million items contained in over 1,000 buildings. The sample design, implementation, and resulting estimates and projections were subject to intense scrutiny by the United States General Accounting Office.
- For the United States Department of Justice, designed and implemented a sample to estimate the number of immigrants improperly granted citizenship. The sample was designed to provide precision of plus or minus less than 1%, for a population of more than 1 million immigrants. The work was the focus of intense congressional scrutiny and received substantial review in the media.
- On behalf of Fortune 100 company, created statistical models to determine the probabilities and likely severities of accidents for different employee and accident types. This project resulted in recommended annual savings of \$3 million.
- On behalf of the Arava Institute of Environmental Studies, advised on design and sampling methodology for a broad-based survey of environmental education in middle and high schools. More than 7,000 students were surveyed in a sample that was stratified by size of town, income level, and other socio-economic variables. Performed weighted statistical analysis to project survey results to the population. Presented results before Israeli Congressional committee in July 2007.
- For the United States Customs Service (Department of Homeland Security), assisted with sampling of financial statement information. Designed and wrote sampling plans, helped implement the plans, and created spreadsheet calculator to analyze results. In an earlier engagement, evaluated the credibility of statistical sampling and analysis used to track and categorize imports, for the Office of Inspector General. Suggested improved methods of sampling and implementation.

- Designed and implemented several studies of stock basis in corporate mergers. One universe comprised over 100 million shares and more than 20,000 shareholders, yet the sample design resulted in a highly precise estimate using data for fewer than 1,000 shareholders.

EDUCATION

Ph.D., Statistics, Wharton School, University of Pennsylvania, 1995

M.A., Statistics, Wharton School, University of Pennsylvania, 1992

B.S., Economics and Finance, *cum laude*, Wharton School, University of Pennsylvania, 1988

RESEARCH

“Evaluating the Environmental Literacy of Israeli Elementary and High School Students,” with Maya Negev, Gonen Sagy, and Alon Tal, *Journal of Environmental Education*, Winter 2008. Presented results before Israeli Congressional committee in July 2007.

“Trends in Environmental Education in Israel,” with Gonen Sagy, Maya Negev, Yaakov Garb, and Alon Tal, *Studies in Natural Resources and Environment*, Vol. 6, 2008. [In Hebrew]

“Results from a Representative Sample in the Israeli Educational System,” with Gonen Sagy, Maya Negev, Yaakov Garb, and Alon Tal, *Studies in Natural Resources and Environment*, Vol. 6, 2008. [In Hebrew]

“Comment on Local model uncertainty and incomplete-data bias by Copas and Li,” with Paul R. Rosenbaum, *Journal of the Royal Statistical Society, Series B*, 2005.

“Determining Air Exchange Rates in Schools Using Carbon Dioxide Monitoring”, with D. Salzberg and C. Fiegley, presented at the *American Industrial Hygiene Conference and Expo*, 2004.

“The Modified Z versus the Permutation Test in Third Party Telecommunications Testing”, *Proceedings of the 2001 Joint Statistical Meetings of the American Statistical Association*. Also presented the paper as part of a panel on telecommunications at the conference.

“Removable Selection Bias in Quasi-experiments,” *The American Statistician*, May 1999.

"Skewed oligomers and origins of replication," with S. Salzberg, A. Kervalage, and J. Tomb, *Gene*, Volume 217, Issue 1-2 (1998), pp. 57-67. Also presented this paper in an invited talk at Hebrew University in Jerusalem in February, 1999.

"Selection Bias in Quasi-experiments," (Doctoral Thesis), 1995.

Patent (#6,636,585) One of five inventors on a patent for statistical process design related to information systems testing.

PERSONAL

Married, with two daughters (Bayle and Fayanne), and a son (Caleb).

Enjoy ultimate frisbee, basketball, biking, hiking, tennis, skiing, chess, and bridge.