A Bibliography on Statistical Consulting and Training

Hardeo Sahai\textsuperscript{1} and Anwer Khurshid\textsuperscript{2}

1. Introduction

Statistical consulting is one of the very important elements among the professional statistician’s activities. It is also an integral part of the duties of many statisticians employed as faculty at universities or colleges. During the last two decades consulting in statistics has become a very important issue and a widely discussed problem among applied statisticians (see, e.g., Hunter 1981; Rustagi and Wolfe 1982; Deming 1986; Hand and Everitt 1987). It is now widely recognized that the traditional applied statistics training alone is not adequate to prepare the student to develop skills in solving real-world problems and to assume the role of a consulting statistician. As a consequence, an increasing number of colleges and universities are now providing formal training in statistical consulting in their applied statistics programs. Several authors have put forth analyses and recommendations for the inclusion of teaching of statistical consulting and the consulting training in an applied statistics program (see, e.g., McCulloch et al. 1985; Carter et al. 1986; Marquardt 1987). Wilson (1992) has argued that statistical consulting should be given formal recognition as scholarship for activities of applied statisticians. There is a growing literature in the field and several national and international meetings have organized sessions and devoted numerous papers for discussing the problem of teaching and training in statistical consulting. A special newsletter devoted to statistical consulting began publication in 1984. The newsletter, titled The Statistical Consultant, is published three times a year by the Section on Statistical Consulting of the American Statistical Association. It carries essays, book reviews, announcements of new publications, professional news and events, and other information of interest to applied statisticians. The newsletter, as of December 1997, has published 42 issues and is currently available from the ASA Central Office in Alexandria, Virginia, at the time of the membership subscription.

This report presents a listing of available literature on consulting and training in statistics. The publications on teaching and learning statistics in general are not included. For such items, the reader is referred to two general bibliographies on teaching of probability and statistics (Misra et al. 1987; Sahai et al. 1996) as well as some specialized bibliographies in substantive fields: in dental journals and dental education (Sahai et al. 1989; Khurshid and Sahai 1996); in nursing and allied health education and literature (Sahai and Khurshid 1992); in biological, medical and health sciences (Sahai et al. 1990; Khurshid and Sahai 1993); and in business, economics and management sciences (Gandhi et al. 1991).

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A list of books devoted entirely to certain aspects of consulting and training in statistics is provided as an appendix (Appendix A). In the compilation of this bibliography, we have made use of previously published bibliographies on statistical consulting by Woodward and Schucany (1977) and Hand (1987). In addition, we have made considerable use of the *Current Index to Statistics, Statistical Theory and Methods Abstracts* and the *Science Citation Index* for locating relevant publications. We have found the bibliography very useful in our own work; and we believe that it will also be equally beneficial to students, consulting statisticians, and other professionals.

2. Description of Entries

The entries for articles are presented in the following form: Author name(s), year of publication, title of article, name of journal, volume number, and page numbers. The sequence for books is: Author name(s), year of publication, title of book, name of publishing house, and page numbers (if applicable). Multiple-authored items are listed under the first named author only. For each author, the items of which he or she is the sole author are listed according to the year. These are followed by the dual-authored items of which he or she is the senior author and then by the year. A similar ordering is followed for the multiple-authored items. Only page numbers are mentioned for the articles appearing in yearbooks, reports and proceedings, as they generally do not have volume numbers for continuity. The language of the articles, if known to be other than English, is indicated after the title of the article. In order to save space, the conventional abbreviations for the journals, periodicals, proceedings and other publications cited in the bibliography, similar to the ones employed by the *Current Index to Statistics*, have been introduced. A list of the abbreviations with complete names of the publications is given in an appendix (Appendix B) at the end of the bibliography.

Finally, to assist the users of the bibliography in their search for specific references of particular topics, the following letter codes are used to classify each entry:

<table>
<thead>
<tr>
<th>Code</th>
<th>Explanation of Topic</th>
</tr>
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<tbody>
<tr>
<td>A</td>
<td>Academic Training</td>
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<tr>
<td>B</td>
<td>Business and Industrial Training</td>
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<tr>
<td>C</td>
<td>Government Training</td>
</tr>
<tr>
<td>D</td>
<td>Academic Consulting</td>
</tr>
<tr>
<td>E</td>
<td>Business, Government and Industrial Consulting</td>
</tr>
<tr>
<td>F</td>
<td>International Training and Consulting</td>
</tr>
<tr>
<td>G</td>
<td>Undergraduate/Pregraduate Training and Consulting</td>
</tr>
<tr>
<td>H</td>
<td>Graduate/Postgraduate Training and Consulting</td>
</tr>
<tr>
<td>I</td>
<td>Student Participation</td>
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<tr>
<td>J</td>
<td>Calculator, Computer, Software, Video and Technology</td>
</tr>
<tr>
<td>K</td>
<td>Administrative and Organizational Issues</td>
</tr>
<tr>
<td>L</td>
<td>Issues Relevant to Developing Countries</td>
</tr>
<tr>
<td>M</td>
<td>Issues of General Interest</td>
</tr>
<tr>
<td>N</td>
<td>Statistical Methodology Useful in Training and Consulting</td>
</tr>
<tr>
<td>O</td>
<td>Quality Control and Reliability</td>
</tr>
</tbody>
</table>
3. References


BIBLIOGRAPHY


Glencross, M.J. (1986). “Initial and In-Service Training of Teachers of Statistics: In-Service
Training to Assist Junior High School Teachers to Implement a New Syllabus in Statistics,” PICTeachSt2, pp. 145–149. [A,G]


Hearron, M.S. (1989). “Current Challenges for Biopharmaceutical Statisticians: Do We Have the Answers? Do We Know the Questions?,” ASAPro150, pp. 81–86. [R,Y]


Holistic Approach to Training Statistical Consultants, ” ASAProStEd, pp. 116–121. [E,G,H]
Statistical Skills: Application of a Four-Component Instruction Design Model,”


Shigan, E. (1984). “Principles and Methods of Active Postgraduate Training in the Field of Medical Statistics,” PEuSympSt, p. 44. [H,R]


**APPENDIX A**

**Books Related to Statistical Consulting and Training**


APPENDIX B

Bibliography Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>AgroJ</td>
<td>Agronomy Journal</td>
</tr>
<tr>
<td>AJMMgSci</td>
<td>American Journal of Mathematical and Management Science</td>
</tr>
<tr>
<td>AmerStat</td>
<td>The American Statistician</td>
</tr>
<tr>
<td>AmMaMnth</td>
<td>The American Mathematical Monthly</td>
</tr>
<tr>
<td>AmSci</td>
<td>American Scientist</td>
</tr>
<tr>
<td>AnlsMathStat</td>
<td>Annals of Mathematical Statistics</td>
</tr>
<tr>
<td>ApplStat</td>
<td>Applied Statistics</td>
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<td>ASAAnlMtgS</td>
<td>ASA Annual Meetings</td>
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<td>COMPSTAT4</td>
<td>Computational Statistics: Proceedings of the Fourth Symposium on Computational Statistics, M.M. Barritt and D. Wishart (Eds.), Physica-Verlag, Heidelberg, Germany</td>
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<td>COMPSTAT9</td>
<td>Computational Statistics: Proceedings of the Ninth Symposium on Computational Statistics, K. Momirovic and V. Mildner (Eds.), Physica-Verlag, Heidelberg, Germany</td>
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<tr>
<td>COMPSTAT10</td>
<td>Computational Statistics: Proceedings of the Tenth Symposium on Computational Statistics, Y. Dodge and J. Whittaker (Eds.), Physica-Verlag, Heidelberg, Germany</td>
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<tr>
<td>ConClnTr</td>
<td>Controlled Clinical Trials</td>
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<tr>
<td>DataAnInf4</td>
<td>Data Analysis and Informatics 4, E. Diday, Y. Escoufier, L. Lebort, J. Pages, Y. Schektman, R. Tomassone (Eds.), North Holland, Amsterdam</td>
</tr>
<tr>
<td>DrugInfJ</td>
<td>Drug Information Journal</td>
</tr>
<tr>
<td>DQualCntrl</td>
<td>Data Quality Control: Theory and Pragmatics, G.I. Liepins and V.R.R. Uppuluri (Eds.), Marcel Dekker, New York, U. S. A.</td>
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<tr>
<td>EconCy</td>
<td>Economic Computation and Economic Cybernetics Studies and Research, Academy of Economic Studies, Laboratories of Economic Cybernetics Department, Bucharest, Rumania</td>
</tr>
<tr>
<td>EDVMdBio</td>
<td>EDV in Medzin und Biologie</td>
</tr>
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<td>EkonSamT</td>
<td>Ekonomiska Samfundets Tidskrift: Economics Society of Finland, Helsinki, Finland</td>
</tr>
<tr>
<td>EnvHlthPers</td>
<td>Environmental Health Perspectives, National Institute of Environmental Health Sciences, Research Triangle Park, North Carolina, U. S. A.</td>
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<td>Estd</td>
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<td>ExpAgric</td>
<td>Experimental Agriculture</td>
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<tr>
<td>Heurist</td>
<td>Heuristica, Universidad del Valle, Cali, Colombia</td>
</tr>
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<td>HistSci</td>
<td>History of Science</td>
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<td>HumOrg</td>
<td>Human Organization</td>
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<tr>
<td>IJEpid</td>
<td>International Journal of Epidemiology</td>
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<tr>
<td>IntJourNurStu</td>
<td>International Journal of Nursing Studies</td>
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<tr>
<td>IntStRvw</td>
<td>International Statistical Review</td>
</tr>
</tbody>
</table>
ISICelStat  A Celebration of Statistics: The ISI Centenary Volume, A.C. Atkinson and S.E. Fienberg (Eds.), Springer-Verlag, New York, U. S. A.

ItlContSta  Italian Contributions to the Methodology of Statistics, Italian Statistical Society, Rome, Italy

JAppStat  Journal of Applied Statistics

JApPsych  Journal of Applied Psychology

JASA  Journal of the American Statistical Association

JChrnDis  Journal of Chronic Diseases

JEdPsych  Journal of Educational Psychology

JEdStat  Journal of Educational Statistics

JMedSys  Journal of Medical Systems

JOffStat  Journal of Official Statistics

JOperRsr  Journal of the Operational Research Society


JRSS-A  Journal of the Royal Statistical Society, Series A

JSiCmpSm  Journal of Statistical Computation and Simulation

JStEd  Journal of Statistics Education

JStPar  Journal de Societe de Statistique de Paris

MaScitst  Mathematical Scientist

MathScNews  Mathematics Conference Board of the Mathematical Sciences Newsletter

MedEd  Medical Education

MedUseStat  Medical Uses of Statistics, J. C. Bailar II. and F. Mosteller (Eds.), New England Journal of Medicine, Waltham, Massachusetts, U. S. A.

Metron  Metron

MInfoMed  Methods of Information in Medicine

MkngStstcn  The Making of Statisticians, J. Gani (Ed.), Springer-Verlag, New York, U. S. A.


NEJM  New England Journal of Medicine

NYStstcian  The New York Statistician

NZIndStat  The New Zealand Statistician

ORNLRvw  Oak Ridge National Laboratory Review


PCompScSt6  Computer Science and Statistics: Proceedings of the Sixth Annual Symposium on the Interface

Sahai, Khurshid: A Bibliography on Statistical Consulting and Training


PCompScSt26  Computer Science and Statistics: Proceedings of the Twenty Sixth Annual Symposium on the Interface, J. Sall and A. Lehman (Eds.), Interface Foundation of North America, Fairfax Station, Virginia, U. S. A.


PEuSympSt   Proceedings of the European Symposium on Biostatistics/Medical Statistics, J. Adam and E. Hiller (Eds.), Humbolt University, Berlin, Germany


PICTeachSt1  Proceedings of the First International Conference on Teaching Statistics, D.R. Grey, P. Holmes, V. Barnett, and M. Constable (Eds.), Almquist, Sweden

PICTeachSt2  Proceedings of the Second International Conference on Teaching Statistics, R. Davidson and J. Swift (Eds.), University of Victoria Conference Services, Victoria, British Columbia, Canada

PICTeachSt3  Proceedings of the Third International Conference on Teaching Statistics, D. Vere-Jones (Ed.), International Statistical Institute, Voorberg, The Netherlands

PICTeachSt4  Proceedings of the Fourth International Conference on Teaching Statistics, Y. Escoufier and A. El-Ghazali (Eds.), International Statistical Institute, Voorberg, The Netherlands
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<td>ProFSMIntAStEd</td>
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<td>ProISI40</td>
<td>Proceedings of the Fortieth Session of the International Statistical Institute, Voorburg, Netherlands</td>
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<td>ProSISAnv</td>
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<td>PsyMed</td>
<td>Psychological Medicine</td>
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<td>PWkStDBM1</td>
<td>Proceedings of the First LBL Workshop on Statistical Database Management, H.K.T. Wong (Ed.), Lawrence Berkeley Laboratory, University of California, Berkeley, California, U. S. A.</td>
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<td>Qual&amp;Qty</td>
<td>Quality and Quantity: International Journal of Methodology</td>
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<td>Quality Progress, American Society for Quality Control, Milwaukee, Wisconsin, U. S. A.</td>
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<td>RptStBus2</td>
<td>Report of the Second Annual Conference on Making Statistics More Effective in Schools of Business, S. Chatterjee and A. Tenebein (Eds.), Graduate School of Business Administration, New York University, New York, U. S. A.</td>
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<td>Reports of Statistical Application and Research, Union of Japanese Scientists and Engineers, Tokyo, Japan</td>
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Simltn  Simulation
StatCon  The Statistical Consultant: The Newsletter of the Section on Statistical Education of the American Statistical Association
StatJUN  Statistical Journal of the United Nations Economic Commission for Europe
StatMed  Statistics in Medicine
StatMedRsr  Statistics in Medical Research, V. Mike and J. Stanley (Eds.), John Wiley and Sons, New York, U. S. A.
Stats  Stats: The Magazine for Students of Statistics
Statstca  Statistica
StatSci  Statistical Science
StDAlndExp  Statistical Design and Analysis of Industrial Experiments, S. Ghosh (Ed.), Marcel Dekker, New York, U. S. A.
StSfwNl  Statistical Software Newsletter, International Statistical Institute, Voorburg, The Netherlands
Ststcian  The Statistician
SurvylMet  Survey Methodology
TeachgSt  Teaching Statistics
Technmcs  Technometrics
TOnnderwR  Tijdschrift Voor Onderwijs Research

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An Introduction to Statistical Learning provides an accessible overview of the field of statistical learning, an essential toolset for making sense of the vast and complex data sets that have emerged. This book is targeted at statisticians and non-statisticians alike who wish to use cutting-edge statistical learning techniques to analyze their data. The text assumes only a previous course in linear regression and no knowledge of matrix algebra.