....New Books in Review

PRINCIPLES OF MARKETING RESEARCH, Richard P. Bagozzi (ed.), Cambridge, MA: Basil Blackwell Ltd., 1994, 430 pages.

ADVANCED METHODS OF MARKETING RESEARCH, Richard P. Bagozzi (ed.), Cambridge, MA: Basil Blackwell Ltd., 1994, 407 pages.

As I read *Principles of Marketing Research* and *Advanced Methods of Marketing Research* for this review, I realized that I was probably doing so in a fashion dissimilar to nearly every other reader. Who else will read these cover to cover, and only read each chapter once? Most readers will pick and choose chapters and be willing to read selected chapters repeatedly. Master of Business Administration (MBA) market research students might read only the first part of the first volume, whereas more advanced MBA and doctoral students might focus on the last part of the first volume and parts of the second. I read and judged each chapter in a sequential fashion. Yet, most will attempt to find guidance by selecting and using the specific tools most appropriate for their data analysis situation.

Furthermore, I realize that the value of these chapters depends greatly on the experience and knowledge of the reader. Those well-versed in the intricacies of particular tools may well find some chapters to be too simplistic and others capable of enhancing their understanding of the tools. Less knowledgeable readers may find the first set of chapters helpful and the second set of little use. I can only evaluate the text from my own perspective, which reflects my experience with several of the tools, but only limited exposure to others.

The author's stated purpose was to write primarily for doctoral students, faculty, and researchers, with the secondary purpose of writing for MBA students. Bagozzi (p. xv) acknowledges that whereas the first volume offers "more advanced treatment than [is] customarily found, this volume can be handled by most MBA students." The majority of the chapters are certainly more appropriate for the former market rather than for the latter one. The 20 chapters that compose the two volumes have a huge range, starting with the operational definition of constructs and extending to the coverage of analytical techniques for which no software is available in the marketplace.

The volumes have glaring gaps in the systematic coverage of the marketing research process. There is little or no acknowledgement of the problems encountered when data are collected from other cultures. The focus here is clearly on the United States; this narrow focus is no longer acceptable, especially in a text preparing future faculty.

Another glaring omission is the lack of discussion of the wide variety of qualitative approaches increasingly being used by academic researchers. There is a chapter on qualitative marketing research, but its emphasis is on focus groups and their fairly traditional role in the research process. The text falls short of advocating the use of pluralistic approaches to measure the same phenomenon. The *Journal of Consumer Research* has had numerous articles based on qualitative data collection processes, and the *Journal of Marketing Research* recently published Arnould and Wallendorf's (1994) introduction to market-oriented ethnography. Thus, the volumes seem to be behind the times in terms of the methodologies being promoted.

Another disappointment is the failure to provide an integrated presentation of the complete research process. The volumes' implicit purpose is to provide guidance for gaining insight from the data that respondents can provide. The techniques covered in the second volume evolved largely because recent practice had found that the older approaches had assumed too much in terms of what respondents can (or are willing to) provide. Several of the chapters in the second volume deal explicitly with data problems and how the new approach fits the situation better. However, as a whole, the volumes do not cover these issues systematically. Their implicit emphasis is on analytical techniques, and they underemphasize the reality of data collection limitations. To some extent, the failure to link data collection and analysis systematically may encourage a "Have Tool Will Travel" type of mentality that may harm, rather than aid, the efforts to gain insight from data obtained under noisy circumstances, that is, most of the time.

The chapters are a bit uneven—the orientation is generally academic in nature, though certain sections are extremely applied. The reference style is that of the American Psychological Association and not that common to the journals to which most marketing doctoral students will be targeting their work (e.g., *Journal of Marketing*, *Journal of Consumer Research*, *Journal of Marketing Research*), which, though it is not a major flaw, does have the impact of creating unneeded noise when preparing marketing scholars.

One major disappointment is the quality of the editing of the volumes, because they have numerous spelling and grammatical errors. The volumes are politically correct, because they are printed on acid-free paper, but the publisher should have edited them more carefully. Apparently the editing process was not a smooth one, because in several places, the volumes are referred to as Bagozzi (1993) instead of Bagozzi (1994).

The authors who contribute to the volumes are generally well known academics, which give the volumes a great deal of credibility. For example, the name that is first associated with sampling is Seymour Sudman, and he wrote the sampling chapter.

To some extent, it would appear that these volumes can play a role similar to Green and Tull's (1978) marketing research text, which people from many business disciplines used as a source for applied coverage to supplement the more theoretical coverage they were getting in their multivariate statistics classes. Another analogy is to Day and Parsons's (1971) reading book, which gave examples from the marketing literature on the use of the then new tools. One advantage to these earlier books is that they cover approaches not covered in any other existing text.

CHAPTER REVIEW

The first volume introduces the research process briefly and then discusses the more common data analysis procedures. Bagozzi's first chapter on the analysis of questionnaire design is slightly uneven, partially because of its broad scope. Some sections (i.e., the measurement section) are theoretical, yet the chapter ends with extremely practical coverage of the five-stage questionnaire design process. Although the material covered here is "old stuff" to most academics and research practitioners, Bagozzi does add his own insights. For example, in his thorough coverage of Campbell and Fiske's (1959) multitrait-multimethod matrix, he notes that the similarity of methods commonly found in marketing studies is actually a more stringent test.

Calder's chapter, Qualitative Marketing Research, is a systematic coverage of focus groups. "Qualitative research" is positioned here in a very traditional manner, placing it in the research process as a preliminary stage to survey research. As noted previously, many marketing researchers will find this coverage to be incomplete because of its failure to consider a broader array of qualitative approaches.

Sudman's chapter, "Sampling," is disappointing. Because I am aware of no one in marketing more knowledgeable about sampling than he, the chapter is bound to have great credibility value. Yet, most of the citations are old, with the more recent ones being from Sudman's own work. His focus on optimal conditions creates the perception that there must be extremely precise determination of sample size, which ignores the rather flat Expected Net Gain from Sampling curve that is typically found when the costs of sampling are considered. The chapter benefits from the inclusion of several rules of thumb obtained from experience, such as standard sample sizes (see p. 110) and the discussion of the lack of impact caused by geographical areas in many situations.

Lockhart and Russo's chapter, "Mail and Telephone Surveys in Marketing Research," is a low point in the volume. The authors position the chapter as being based on their experience and suggest that their positioning will be much more practical than the standard coverage in marketing research texts and academic literature. However, much of their coverage is similar to that in textbooks. (In fact, several are cited frequently.) They review studies in too much detail and show no effort in trying to synthesize information across studies. The literature here is huge, and the review does not do it justice. They cite Dillman, who discussed the dismal lack of research on telephone surveys in the late 1970s. That void has been filled in the years since then, and these efforts deserve some coverage.

Dipak Jain's chapter on regression analysis is written in an understandable fashion and covers most regression-related issues in a systematic manner. The coverage of problems such as autocorrelation is thorough, but multicollinearity, which certainly causes major problems in cross-sectional studies, is partially dismissed as a sample problem.

The experimental design chapter by Sternthal, Tybout, and Calder provides a practical overview of the design of experiments and includes a healthy dose of their philosophical perspective that was presented in some of their previous articles and Alice Tybout's presidential address at Association for Consumer Research in October 1994. On the other hand, the chapter does not provide a strong "how-to" framework, because there is little to guide doctoral students in their early attempts to design experiments.

The chapter, "Analysis of Experimental Data," by Iacobucci is extremely long, with much of it being fairly standard. The examples are hypothetical in nature and, thus, do not provide ties to marketing literature. Iacobucci's chapter on classic factor analysis also provides fairly standard coverage, though her graphical explanation of eigenvalues and eigenvectors is excellent. I appreciate her introduction's historical perspective, especially the section contrasting the philosophies of Spearman and Thurstone. Numerous examples are used, but, again, they do not come from marketing literature nor do they provide the added benefit of introducing relevant literature in the field.

The last two chapters of the first volume and the first chapter in the second volume are written by Bagozzi (with Baumgartner and Yi each coauthoring one) and examine structural equation models. They represent extensions of Bagozzi's (1980) excellent book, *Causal Models in Marketing*, and are clearly the highlights of the volumes. They provide excellent guidance regarding the use of the procedures—going so far as to include example LISREL specifications in the appendices. All three chapters make excellent use of examples from marketing literature, thus, promoting the development of "cultural literacy" among readers. Bagozzi's command of the literature makes the selection of research examples very appropriate to the application at hand and allows the provision of far more insight than that

which would be gained from the use of hypothetical examples. The presentation should facilitate the replication of the process with a reader's own data. At the same time, the authors demonstrate excellent awareness of the interdisciplinary literature covering the procedures, and, thus, avoid possible problems with tunnel vision.

The chapter on partial least squares (PLS) by Fornell and Cha is good, but pales in comparison to the three chapters, authored and coauthored by Bagozzi, that precede it. The authors provide a clear and interesting delineation of PLS from LISREL. However, the chapter does not have the same level of guidance for the use of procedures as was found in the discussions of structural equation models.

Jay Magidson authored chapters on multivariate statistical models for categorical data and the CHAID approach to segmentation modeling. I found them disappointing, partially because of my possibly excessive expectations that were based on his earlier work on CHAID. The implicit tone of the chapters is more "see the tricks I can do" rather than "let me demonstrate how you can handle such issues." More effort was needed to clarify why the procedures being discussed are more appropriate than the more familiar parametric counterparts. Data situations are discussed in terms of meaningless variable names. Some examples are not related to marketing (e.g., one on duodenal ulcers), which seems inappropriate for these volumes. The example that receives the most coverage in the two chapters concerns the prediction of a person's response to an invitation to try a free issue of a magazine and has problems with face validity. The techniques require very large sample sizes; and it is understandable that such data sets may not be that accessible, but using a data set indicating that over 90% of the households have neither children present nor a bankcard does not have much credibility.

Arabi and Hubert's chapter on cluster analysis and Louviere's chapter on conjoint analysis are positioned as extensions of earlier review articles by Punj and Stewart (1983) and Green and Srinivasan (1990), respectively. They provide extensive literature reviews; thus, the interested reader can seek further coverage. They are excellent sources of information on where to go to get a clear picture of the procedures, but as stand-alone sources they are disappointing. Both chapters will be well received by those with much prior experience with the tools, but not by novices. Louviere's stated goal is to consider the behavioral implications underlying conjoint analysis. The search for behavioral ties to the underlying cognitive algebra is reminiscent of some of the work on stochastic processes that dominated the *Journal of Marketing Research* in the early 1970s, especially Massy, Montgomery, and Morrison's (1970) book. However, the theoretical underpinnings discussion never crystallizes to provide the reader with a clear understanding of its value.

DeSarbo, Manrai, and Manrai provide a very technical introduction to latent class multidimensional scaling (LCMDS), but do not provide much guidance for its use. The introduction provides a good overview and is tantalizing, which makes LCMDS appear to be a breakthrough in using multidimensional scaling in market segmentation. But the focus changes to derivation and fails to provide much context of the "here is why you should care" orientation.

The chapter on multiple correspondence analysis (MCA) by Hoffman, de Leeuw, and Arjungi contrasts MCA with more traditional analyses and provides an interesting historical perspective and a clear discussion of the analytical process. The example used to demonstrate the procedure (an analysis of 31 Swedish industries) may cause the reader some problems. The analysis discussion starts after preliminary analyses have aggregated the responses of "hundreds of people." It is likely that all 31 stimuli were not rated by all respondents, but such issues were not discussed. The joint space of the response category and service industry presentation is appealing, but there are questions of face validity. Why would "Unlikely Switch" and "Very Unlikely Switch" be separated by a long distance, whereas "Unlikely Switch" and "Likely Switch" are close together, as are "Undecided Switch" and "Very Unlikely Switch?"

The chapters on latent structure and other mixture models by Dillon and Kumar and latent class regression models by Wedel and DeSarbo have overlapping discussions. Both chapters address technical aspects of the procedures, but I preferred the style of Dillon and Kumar's chapter, because it is easy to skip the discussion of the technical material if it is new to the reader, yet easy to follow if not. In addition, they provide sufficient context to give most readers a general understanding. The Wedel and DeSarbo chapter provides less context early in the chapter. On the other hand, their discussion of the analysis of SERVQUAL data is interesting and insightful, especially because of the controversy associated with the procedures normally used in SERVQUAL applications.

SUMMARY

Readers will open these volumes with multiple motives. Many will find their needs well met, whereas others will not. Those seeking good overviews of the state of the art for tools, such as conjoint and cluster analysis, will be disappointed, though they will be directed to valuable sources. On the other hand, those wanting to see where the use of those two techniques may be heading, will be more satisfied. The chapters on structural equation models are exemplary for providing perspective on the use of the tools, showing how previous marketing literature could have been improved by using the tools, and providing guidance for their use. Other chapters approach this standard of excellence, but fall short. Some rely on examples of questionable validity or relevance to the reader.

The volumes provide extensive coverage of tools that allow analysts to draw greater insight from data that can be obtained feasibly from respondents. However, they do not underscore the linkage between the need to obtain thoughtful responses to easily understood stimuli and the selection of analytical procedures from which a person can gain the maximum amount of insight. To some extent, the implicit message is that a person must obtain data sufficient to meet the needs of the tool rather than form an integrated perspective that fits the tool to the specific data collection process that can draw the maximum amount of information from respondents, while taking into account the constraints of the situation facing the marketer.

The volumes will be of use both to marketing practitioners and academics wishing to gain insight into alternative

analysis procedures. The next generation of doctoral students may rely on them for reference as much as doctoral students 20 years ago relied on Green and Tull's (1978) text. The volumes are good, but, with the talent of the people involved in the projects, they could have been better. A person should have them on his or her bookshelves, but should continue to seek other comprehensive sources on the more current analytical techniques.

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STRUCTURAL EQUATION MODELING WITH EQS AND EQS/WINDOWS, Barbara M. Byrne, Thousand Oaks, CA: Sage Publications, Inc., 1994, 288 pages, $42.00 (cloth), $18.95 (paper).

Barbara M. Byrne is an Associate Professor of Psychology at the University of Ottawa. Her research focuses on applications of structural equation modeling (SEM), and she is the author of a primer on using the LISREL program for SEM (Byrne 1989), as well as numerous substantive investigations of self-concept, burnout, and depression. She has also worked with such notables in the field of SEM as Bengt Muthén and Peter M. Bentler, the developer of the EQS program (Bentler 1992). These experiences are reflected throughout *Structural Equation Modeling with EQS and EQS/Windows*.

Subtitled "Basic Concepts, Applications, and Programming," the book is intended as a supplement to the manuals for EQS (Bentler 1992) and EQS/Windows (Bentler and Wu 1993), as well as textbooks on SEM. It consists of four parts. Part 1 provides a brief nonmathematical introduction to SEM and the EQS program. The chapters in Part 2 present single-group analyses, with applications to first-order and second-order confirmatory factor analysis, multitrait-multimethod modeling, and combined measurement and structural models. Part 3 provides four illustrations of tests for measurement and structural invariance in multiple-group analyses, including a comparison of latent mean structures between two groups. Part 4 provides an overview of the features of EQS/Windows and shows its use in the specification of a longitudinal model. EQS/Windows has some wonderful facilities for examining data distributions and exploring variable interrelationships that are barely addressed in this section; readers will want to consult the user's guide to learn more. The example model analysis is a better showcase for EQS/Windows' capabilities, featuring a relatively complicated model specification and illustrating options for the automatic addition or deletion of parameters on the basis of significance test results.

All of the example analyses are drawn from Byrne's own research, but she provides citations throughout the book to applications in business, education, medicine, and other fields. The non-Windows examples show EQS in mainframe and personal computer (PC) environments, with data in either the program or external files, and either in raw form or as a correlation matrix. Therefore, readers may find a relevant illustration for almost any EQS setup they use. The mix of research questions investigated is less varied, though. The emphasis is on measurement applications of EQS, and such topics as nonrecursive models and interactions are not considered.

Several features of the illustrations will be beneficial to SEM novices. The EQS programming and interpretation are presented clearly and in detail so that readers should have little trouble applying the concepts in their own research. An especially nice feature is that, as is usual with "real" data, things "go wrong." Byrne presents output containing warning messages, illustrates the detection and treatment of outliers and non-normal data, and modifies hypothesized models on the basis of judgment calls and model diagnostics (always with the warning that model paths must be theoretically justified). Seeing realistic rather than idealistic applications is good preparation for practicing and interpreting SEM.

The major benefit of the book to experienced modelers who are new to EQS is the convenience of having detailed examples to follow. None of Byrne's applications involve "tricks" or steps that would not be clear from the EQS and EQS/Windows manuals. In fact, except for the lack of a multitrait-multimethod illustration, the manuals provide examples of the same types of applications as Byrne does. But Byrne's step-by-step detail and integrated discussion of data screening and model respecification can reduce the time spent fixing minor errors in program setups or searching through the manuals for desired options. Byrne also identifies differences between EQS and LISREL that modelers who are changing software packages need to recognize.

There is little in the book that will strike experienced researchers as controversial. The two exceptions are (1) Byrne allows measurement errors to correlate within and between constructs without any caveats about how the model interpretation may be affected (e.g., Gerbing and Anderson 1984) and (2) the use of the argument that "an important preliminary step in the analysis of [structural] models is to test first for the validity of the measurement model before making any attempt to evaluate the structural model" (p. 141). Although this recommendation is certainly not unique