
Cognition and Personal Structure is not a book that the typical marketing research professional would be likely to read on the basis of its title. It is a book that should be of interest to a very broad cross-section of the marketing research community, however. Certainly marketing professionals interested in computer-assisted data collection, expert systems, cognitive structure, and behavioral decision theory would find the book particularly useful. Cognition and Personal Structure is an edited volume of 12 chapters describing computer-assisted approaches to mapping cognitive structure and personal knowledge. All but one of these approaches are written for the personal computer, which makes the book very timely and relevant for marketing research professionals.

The editors, James Mancuso and Mildred Shaw, are both well known in their respective fields. Professor Mancuso is a psychologist who has done extensive research on personal construct theory. Professor Shaw is a professor of computer science who has written extensively on a wide variety of aspects of computer and human systems. The tandem editing of psychologist and computer scientist results in a book that is strong in terms of technical detail, theoretical foundations, and illustrative applications.

The theoretical foundation of the book is found in George Kelly’s Psychology of Personal Constructs (Kelly 1955; see also Adams-Webber and Mancuso 1983). Though the constructivist perspective, as Kelly’s and subsequent work has come to be called, is not unknown in marketing, its influence on marketing thought has not yet reached its full potential. This situation will change as marketers attempt to model individual perceptual and decision processes with the assistance of powerful portable computers.

In the first two chapters of Cognition and Personal Structure, Mancuso and Shaw build a strong case for using a constructivist perspective for modeling cognitive processes. For readers unfamiliar with the personal construct theory, these chapters are a helpful but cursory introduction. Fortunately, one need not fully understand personal construct theory to read and appreciate the remaining chapters. Nor is it necessary to accept a constructivist view to benefit from the applications and tools offered.

Chapter 3 is the first of 10 chapters that discuss computer-assisted cognitive mapping. It presents PLANET, an integrated set of programs for the elicitation and analysis of a wide range of cognitive activities. These programs include tools for eliciting constructs, analyzing relationships among members of groups who have differing construct systems, and developing logical dependencies between constructs that can be used to develop rules for an expert system shell that acts as a cognitive model of the person. Examples of each of the individual elements of the set of programs are provided in the chapter.

The fourth and fifth chapters give an overview of programs for constructing repertory grids and for investigating relationships among constructs. The programs described in these chapters appear to provide several options for eliciting and scaling descriptions of objects, events, or persons. Some of these programs also allow the researchers to explore the importance, certainty, and clarity of various constructs, as well as the nature of their organization. These programs appear to have considerable utility for marketing researchers interested in exploring knowledge structures and the influence of expertise and involvement.

Chapter 6 describes a product of the Artificial Intelligence Center of Boeing Computer Services, the Expertise Transfer System (ETS). ETS is a computer-assisted approach for representing the knowledge base of an expert, which then can be used for defining and building an expert system. This system apparently has been applied to a wide range of problems, and the chapter is a very good treatment of the issues related to the elicitation of knowledge and rules from experts. Anyone interested in expert systems would find this chapter readable and very useful.

Chapters 7 and 8 address topics with which marketing professionals are likely to be most familiar, mapping
perceptions and preferences. Chapter 7 discusses programs for eliciting multiattribute judgments and for representing them through well-known procedures for multidimensional scaling and conjoint analysis. Chapter 8 covers similar approaches, but within the context of mapping changes in perceptions or preferences over time.

Chapters 9 through 11 are likely to be the least interesting for marketing professionals as they pertain to issues more closely allied with clinical psychology than with marketing. Nevertheless, each chapter offers some interesting methodological insights that can be linked easily to marketing applications. Chapter 9 is concerned specifically with measuring the self-concept and Chapter 10 explores issues related to the assessment of the cognitive structure of the parent role. The latter chapter includes an interesting discussion of prototypicality that will be of interest to some marketing and consumer behavior researchers. Chapter 11 is on psychiatric diagnosis, and in particular the integration of information obtained across large batteries of diagnostic instruments. This chapter may be of interest to researchers involved in the design of systems to assist managers in coping with large volumes of information, but the insights for marketing will be difficult to identify.

The twelfth and final chapter appears somewhat misplaced. It essentially offers an argument for using model-based methods to analyze cognitive structure. The chapter is really a treatment of factor analysis and calls for greater use of confirmatory procedures in the analysis of cognitive structure. Though the call is probably justified, the relationship of the chapter to computer-assisted methods for analyzing cognition seems to be based only on the fact that computers are necessary for factor analytic approaches.

A particularly useful feature of the book is information at the end of each chapter describing where the reader can obtain the programs described. This information generally includes the type of computer(s) on which the program will work, the language in which the program is written, and other descriptive information that will help the reader determine how useful the program might be in his or her setting.

The book is generally well written and the reader is spared the technical details of programming. Potential readers should be aware that the book requires more than passing familiarity with cognitive psychology, however. The only genuine failing of the book is the lack of a concluding chapter that ties the various individual chapters together and provides a general summary of the state of the art, unresolved issues, and areas needing further research. The editors are well qualified to write such a chapter and it would have added significantly to the value of the text. This one shortcoming aside, the book is a solid contribution and should be on the "must read" list for marketing researchers interested in computer-assisted approaches to gathering data.

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