MARKETINGSTAT

Mapping Markets for Strategic Purposes

with Marketing Manager for Excel
MM4XL© Software

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Preface

The inspiration for this book came from Paul Smelser and Howard Morgens . In 1924 Paul Smelser, an economist, began to systematically use survey studies, whilst working on Ivory soap and the company, Procter & Gamble agreed with him that *…the wives of the management aren't representative anymore…* . Howard Morgens, as an early disciple of Paul Smelser extended the use and application of marketing research further in Procter & Gamble; eventually serving as CEO in Cincinnati during the period 1954-1974. Smelser and Morgens were responsible for setting a landmark in modern business analysis and planning. We at MarketingStat are grateful for their work as it gives us the opportunity of contributing to the pattern they set towards a scientific view of management aimed to improving business results.

This book is written for the fact-and-data driven business decision-makers and analysts concerned with creating resources for the organization in which they work and willing to be guided by the scientific process. The Oxford dictionary defines science as *knowledge arranged in an orderly manner, especially knowledge obtained from observation and testing of facts*. In our discussion we have intentionally kept to a minimum scientific notation to give space to the development of business knowledge.

Modern marketing departments receive a regular flow of (not inexpensive) market data holding a wealth of strategic information. This book seeks to illustrate how to optimally use such data for the purpose of extracting knowledge useful for making solid strategic statements. By the end of studying this book you will be well equipped to examine market data from a different perspective and to define better strategies resulting in an improved way of doing business.

Finally, our thanks go especially to Dr Richard Cave of Comtrad Europe for reviewing the manuscript and recommending improvements and corrections; to Martin Feigenwinter of Bristoll-Myers Squibb for his illuminating thoughts and appropriate suggestions; and to Helcio Lima of Genexis Health Inc. for his encouraging comments.

Introduction

Finding a profitable and sustainable marketing strategy for the long-term is one of the most challenging operations for marketers. There are different approaches to the issue, ranging from fully pragmatic to strongly analytical. Our experience at MarketingStat suggests a reasonable approach is based on solid data analysis used for developing strategic thinking. Creativity without analysis may reveal very dangerous as well as a fully analytical decisional pattern may turn scarcely distinguishing for the business."

In the past 70 years, however, the impressive increase of sources and data available to business decision-makers has not been matched by the relatively slow motion of the application of analytical techniques to extract this hidden strategic information. There has been a tendency to 'spontaneous' management, with an impact on several critical business sectors, and the return on the (relevant) investments for data and information is not yet optimal for most companies.

In this context we see an opportunity for decision-makers investing in managerial culture. It is not enough to manage by simply saying *what* has to be done, but rather to say what to do and to show *how* to do it. This requires a shift from the profile of a manager as an *administrator of resources* to one of *creator of resources*, which in turn requires growing a managerial culture based on objectivity and evidence. Evidence is to be found in facts and data, and our experience suggests that improving the way business teams apply analytical techniques to business data can impact on business performance and it brings more advantages: the focus on business grows, the teamwork gets reinforced by a deeper integration of business analysts and by a reinvigorated strategic discussion; risk is handled with increased care due to an improved decisional awareness and as a result the business prospers.

The take-home-message of this book is: monitoring the strategic position of brands helps surfing the market and avoids being driven by the tide. Managers are encouraged to learn how to produce and analyze business data in order to take better business decisions where flair is supported by evidence. The way may be long and tough, yet it can lead to reward. Those readers who want to take the walk will find in this book the background required to apply Brand Mapping, perhaps among the most useful techniques to strategic decision-makers, and they will also find the tools to produce such analyses in-house. This tool, Brand Mapping, is one of the many tools available in Marketing Manager for Excel, MM4XL, the software used to run the analyses in this book.

About this book

Mapping Markets with MM4XL Software shows how to draw very informative pictures of a competitive environment applying Brand Mapping. This is a book for business decision-makers and analysts, who approach their job from an analytical perspective. It aims to foster the scientific approach to business management, and it presents a detailed view of an analysis technique that we have found to be of great help to marketers.

Book structure

The book divides into three chapters. Chapter 1 provides an overview of mapping techniques for marketers. Chapter 2 shows how Brand Mapping works. Chapter 3 presents a collection of Brand Mapping examples for marketers. Although the material is short and compact, it may require more than one reading in order to be fully absorbed.

Ancillary material

The file *Mapping Markets with MM4XL Software.xls* in the CD that accompanies this book contains the data used in the examples of chapter 3. Moreover, in the same file there are separate sheets that show how to perform specific tasks mentioned in the book. This file is a precious resource to master the multifaceted applications of the Brand Mapping technique, especially for MBA professors and students.

MM4XL Software

The CD that accompanies this book contains a copy of MM4XL software licensed for unrestricted use for 90 days. MM4XL software is a collection of over 20 tools useful to marketers, it embeds in Excel 97 or later versions and it works in MS Windows. Trial copies of MM4XL full functioning for 21 days can be downloaded from www.marketingstat.com. At the end of this book there is a short description of all tools available in MM4XL software release 6.5.

After 90 days, the continued use of the copy of MM4XL software in the CD accompanying this book requires the purchase of a license key (registering). Copies of MM4XL can be purchased from www.marketingstat.com.

Where can I buy this book?

This book can be purchased online fron the website www.MarketingStat.com. To get a discount on bulk orders (several copies), to save time outside the US or if you do not want to pay through credit card over the web, write to info@MarketingStat.com, and we will invoice your company directly.

Chapter 1: Mapping for marketers

Mapping is a technique that marketers appreciate because it can really make the famous picture worth 1000 words. It is a useful technique to show graphically large and complex data sets in order to reveal the relevant information they hold. This concept of a synthetic, and yet rich, graphical display is what appeals to marketers and over the time academics and practitioners have developed several methods for mapping data. We found two classes of mapping techniques that are useful to marketers:

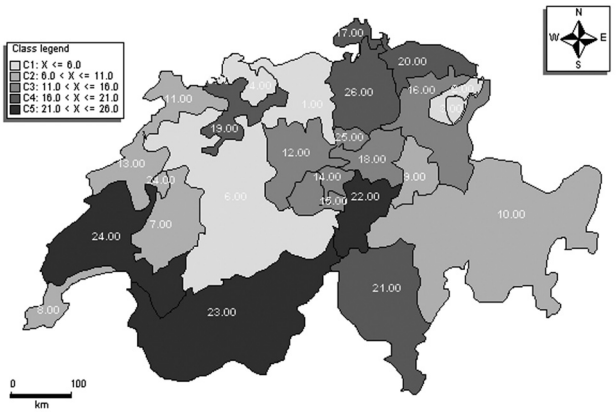
- Spatial maps
- Market maps

In both classes there are techniques for monitoring and planning.

Spatial analysis

Spatial analysis is a discipline involved with the graphical representation of data concerning open and indoor spaces. *Open space maps* are of a geographic nature, and they look like the one following. The color shading of the regions is in accordance with a variable that measures some kind of performance, such as sales, number of active clients or any other measurable unit.

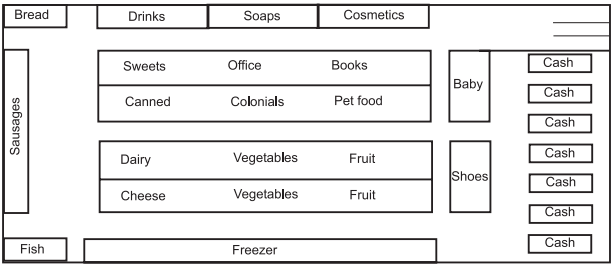
Picture 1.1: Outdoor spatial map.



On the other side, *indoor space maps* refer to buildings, plants, stores, supermarkets and the like, and are used to monitor performance on sales, clients flow, waiting lines, incoming orders, production lines and more. A very useful employment of this technique is emerging from the application of association rules and sequential pattern techniques to the analysis of joint purchases (for instance Basket Analysis to find associations in customer purchases). While points

of sales such as department stores, supermarkets, gas stations as well as banks, hospitals or other departmental organization may find the combined application of spatial analysis and Data Envelopment Analysis (DEA) useful to analyze and increase efficiency.

Picture 1.2: Indoor spatial map.

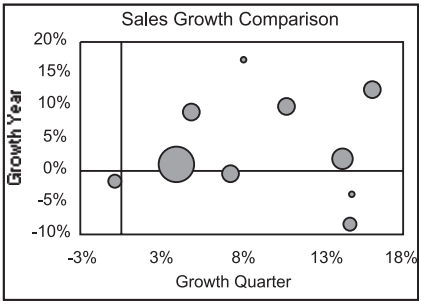


Spatial analysis enriched with techniques such as those from data mining is becoming a very powerful monitoring tool for marketers.

Market maps

Market maps are of two kinds: bivariate and multivariate. Most of them look alike, but they are not. The major differences lie in the data they use, the way they treat the input data and the way the maps are interpreted. Of the former group, many managers appreciate *scatter plots* in form of a bubble chart to summarize data and simplify their interpretation. These charts are often called *maps*, they can be easily made in Excel but without labels, as shown in picture 1.3. Bubble charts without labels, however, are almost useless to marketers.

Picture 1.3: Scatter bubble plot.



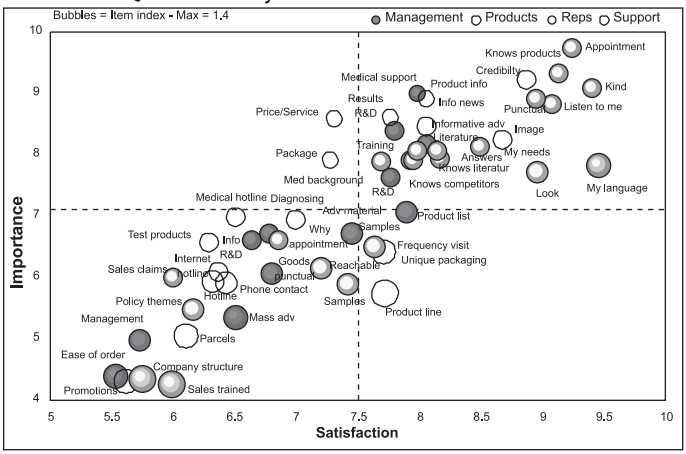
Multivariate maps evolved from the field of social sciences and in contrats to bivariate maps, they are obtained by treating the raw data according to some sort of mathematical and statistical algorithm. The resulting interpretation may be more complex than that of simple bivariate charts, yet the information they can reveal is

of great help to social scientists as well as to business decision-makers and strategists.

Bivariate maps

Perhaps the most popular application of bivariate maps to performance monitoring is *quadrant analysis*, a useful tool developed by the Gartner Group. Quadrant analysis is made using data from two variables and, according to its name, it is split in four quadrants as in picture 1.4.

Picture 1.4: Quadrant analysis.

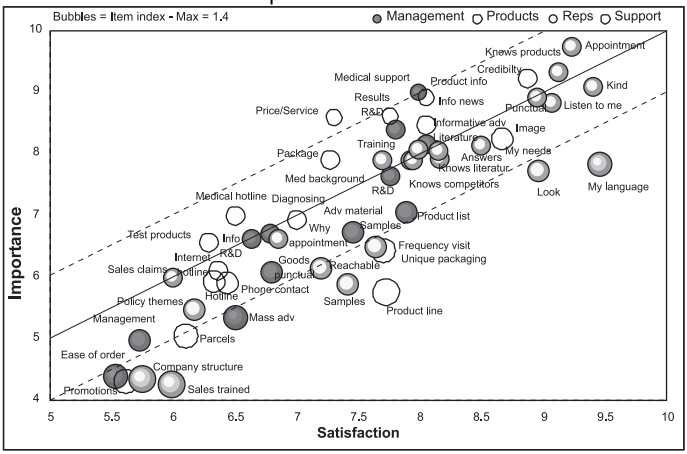


To learn how to make a map like the one in picture 1.4 read the chapter *Smart Mapping* in the MM4XL software help file.

Picture 1.4 shows how well scores of client satisfaction and importance of items plot in a spread out way across the four quadrants (notes gathered with a 0-10 score scale). Each quadrant is assigned a meaning, which helps interpreting the position of bubbles and, therefore, the information in the data. *Quadrant 1* is in the upper left-hand side, it hosts items in which the company is underperforming and they are important to respondents. It would be wise for the management to improve in these two items. *Quadrant 2*, in the upper right-hand side, hosts important items where the company is performing well. Here are most of the items relating to Reps and some concerning the Management. It seems the sales staff is doing well. *Quadrant 3*, lower left-hand side, hosts less important items where the company is also scoring low in terms of satisfaction. There is space for improvement here. Finally, *quadrant 4*, lower right-hand side of the map, hosts items where the company is achieving a good level of satisfaction, although these few items score low in importance.

A different map with the same data is obtained splitting the map with *three diagonal lines* as in picture 1.5. The middle line cuts the map in two equally spaced triangles, while the two extreme diagonals are placed arbitrarily one note above and below the mid-diagonal. From case to case there may be more appropriate ways of placing the two external diagonals; the one in the middle however should always be placed as suggested.

Picture 1.5: Benchmark map.



To learn how to make a map like the one in picture 1.5 read the chapter Benchmark Map in the MM4XL software help file.

In picture 1.4 and 1.5 the size of the bubbles refers to an index derived dividing the score on satisfaction by that of importance each item received. In picture 1.5, bubbles below the mid diagonal are items where the satisfaction is higher than the importance they have for the respondents. This region hosts items performing well, and the lower triangle hosts items performing very well. On the other side, above the mid-diagonal there are items that have scores of importance higher than satisfaction, meaning that the company should improve its performance, and in the very upper triangular region there are items where improvement is highly desirable. Interestingly, one of the two items in the upper region is *Price/ Service*, which stands for an unsatisfactory balance between the price clients pay and the service they get in return.

Bivariate maps, although very useful, can show only show two variables at a time. Three if we take into account the bubble size as well. However, when the environment gets more complex they fail to summarize data in a concise way, so several maps may be required in order to plot them all. This may be the case for a table like table 2.1. We could plot products two at the time on a bivariate map, which means it would require (7x6)/2=21 maps to show all of them, and we would still be missing an overall view of the data. When this happens it is time to use multivariate maps.

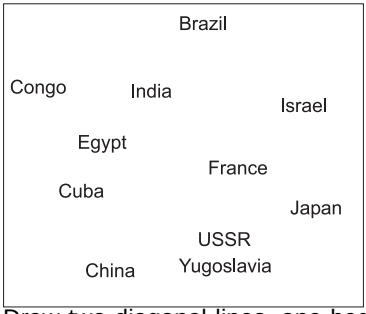
Multivariate maps

There are several different kinds of multivariate map, they all apply techniques from multivariate statistics, and they have rules concerning the kind of data suitable for treatment and their interpretation. One major difference also suggested in the literature is whether the map refers to attributes which are:

- Intangible
- Tangible

Intangible attributes may be, for instance, those emerging out of a survey study made on advertising effectiveness where respondents are interviewed about their reaction to messages and their elements (comprehension and memorization are the other two areas of the survey). They can be feelings and memories evoked by the brand, sensations stimulated by a jingle or a taste, sense of membership, perceived freshness or quality or (dis)similarity or any other attribute difficult to quantify and which is well qualified. Such data is most often gathered with expensive ad hoc marketing studies where respondents go through long and tiring interviews. It is mainly used for planning in the field of communication when working on copy strategy and concept development, yet it may prove also useful in product development. Intangible items are typically mapped with a technique called *Multidimensional Scaling, MDS*. Perceptual maps made with MDS may require a substantial effort in order to be interpreted correctly. Picture 1.6, for instance, refers to a study made by Wish (1971) and it shows the ratings of 18 students on 'global similarity between nations'. What pattern do you see in the map?

Picture 1.6: Similarity between nations.



Draw two diagonal lines, one beginning from the upper left-hand corner and one from the upper right-hand corner. Call the upper side of the former diagonal *Underdeveloped* and the lower side *Developed*, do the same with the second arrow using labels *Pro West* and *Pro Communist*. Does the picture make sense? With brands it may work well too, yet it may require some effort for a correct interpretation.

Tangible attributes are quantitative characteristics that describe an item. It can be socio-demographic data, sales in unit and volume, regional penetration levels,

product technical profiles, preference data on a series of statements, data on purchase occasions or any other kind of descriptive measure of quantitative nature. Data of this kind is often available from survey studies, and companies operating through structured marketing departments receive it in large amounts on a regular basis, ranging from daily to yearly, for instance in form of monthly panel and tracking research. This is the data analysts should start with because it does not require an incremental investment for the purchase, it is already in house, and it is rich in information useful at both tactical and strategic levels. There are three techniques that have gained particular praise for the analysis of tangible attributes (see also Myers, 1996):

- Discriminant analysis
- Factor analysis
- Correspondence analysis

Discriminant analysis produces perceptual maps that tell us which attributes best distinguish or discriminate among, say, brands. Perception measurement comes from the field of psychology, and it stands between the sensations we receive from the 5 senses and the cognitions, such as learning, memory, reasoning, etc. This analysis technique may produce very useful maps. However, rating several brands on many attributes may result in a heavy burden for respondents, and the quality of data may be questioned. Moreover, there are technical aspects linked to the algorithm that impose a certain caution: maps may suffer instability and change dramatically under certain conditions, trivial attributes may receive excessive importance, and omitting important attributes from the analysis is always possible, which would result in only a partial picture .

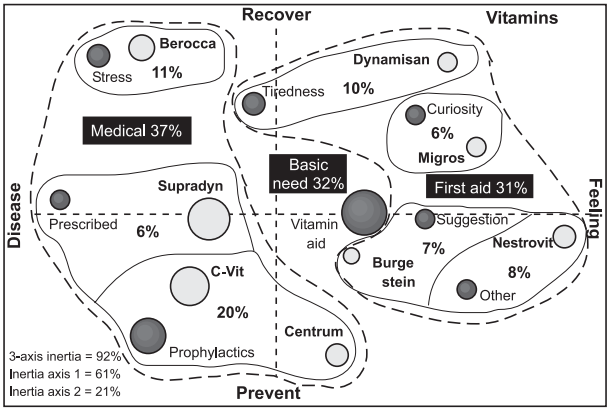
When working with, say, products described by several attributes, *factor analysis* identifies groups of attributes among them which are more similar. The groups are assembled in the form of vectors, which can be displayed on a map. The data required for the analysis is in form of ratings for several variables, say products, on many attributes. When a key feature is omitted the analysis result may be heavily impacted, therefore, choosing the correct attributes is not a trivial activity when running factor analysis. There should be several attributes describing one concept, and they should be measured with data on interval scales (factor analysis is not suited for the treatment of categorical data). The analysis requires rotating factors around the origin in order to interpret them properly, and this demands a certain level of expertise on the user side.

Correspondence analysis draws maps that show the spatial relationships among row and column items. It uses categorical data from almost any kind of rectangular matrix of positive numbers, most often a contingency table; it is a very flexible technique that can handle very different kinds of data; it produces an effective graphical display and its interpretation becomes possible even after only a short technical introduction. The Brand Mapping tool of MM4XL software applies the correspondence analysis algorithm, which we are going to discuss in detail in the following pages.

Introductory example to Brand Mapping

Say a company wants to launch a vitamin-aid product, and it has conducted an ad hoc survey aimed at investigating usage and attitude to the product category. The reasons interviewees mentioned for use for several brands are shown in table 3.2.1. This data is much richer in information than it looks and Brand Mapping helps extracting the important information not immediately visible. Brand Mapping produces a bubble chart, also called a *map*, that, once interpreted and drawn looks like the one in picture 2.0.

Picture 2.0: Brand map vitamins.

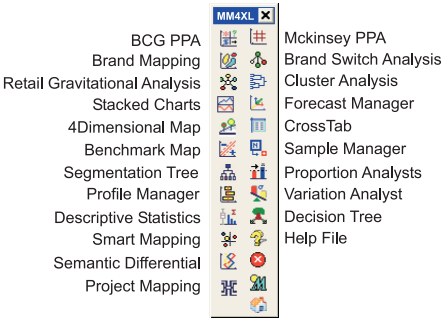


Pictures like the one above are extremely helpful to strategically minded decision-managers because they show both the evident and the sheltered information in the data. The *evident information* relates to the size of brands and attributes, and it can also be seen with a traditional visual inspection of the raw data. When treated with Brand Mapping, however, the data also allows *sheltered information*, such as the similarity, or association, between profiles (distance between bubbles) come to the surface. This supplementary element, interpreted at the light of the analyst's market knowledge, can uncover the underlying dimensions characterizing the competitive environment and understanding this latent market structure helps strategic minded managers in setting challenging and achievable goals.

Tools available with MM4XL software

Full functioning trial copies of MM4XL software working 21 days without restrictions can be downloaded from www.MarketingStat.com.

MM4XL Floating Toolbar



MM4XL software works in 6 languages

Literatur

Rajeev Batra, John G. Myers, David A. Aaker
Advertising Management
Fifth edition, Prentice-Hall International, 1995

Benzécri, Jean-Paul
L'Analyse de Données, Tome 2: L'Analyse des Correspondances
Dunod, 1973

Benzécri, Jean-Paul
Correspondence Analysis Handbook
Marcel Dekker Inc., 1992

von Clausewitz, Carl
Vom Krieg
Penguin Classics, 1982

Cooper, Lee G., Inoue, Akihiro
Building Market Structures From Consumer Preferences
Journal of Marketing Research, XXIII, August 1996

Douglas, Carroll, J., Green, Paul E. and Schaffer, Catherine M.
Interpoint Distance Comparison in Correspondence Analysis
Journal of Marketing Research, XXIII, August 1986

Douglas, Carroll, J., Green, Paul E. and Schaffer, Catherine M.
Interpoint Distance Comparison in Correspondence Analysis: A Clarification
Journal of Marketing Research, XXVI, November 1987

Douglas, Carroll, J., Green, Paul E. and Schaffer, Catherine M.
Reply to Greenacre's Commentary on the Carroll-Green-Schaffer Scaling of Two-Way Correspondence Analysis Solutions
Journal of Marketing Research, August 1989

Everitt, Brian S.
Cluster Analysis
Edward Arnold, 1993

Green, Paul E., Carmone, Frank J. Jr., Smith Scott M.
Multidimensional Scaling: Concepts and Applications
Allyn and Bacon, 1989

Greenacre, Michael J.
Theory and application of Correspondence Analysis
Academic Press, 1984

Greenacre, Michael J, Hastie, Trevor
The Geometric Interpretation of Correspondence Analysis
Journal of the American Statistical Association, June 1987, Vol. 82, No. 382

Greenacre, Michael J.
The Carroll-Green-Schaffer Scaling in Correspondence Analysis: A Theorethical and Empirical Appraisal
Journal of Marketing Research, August 1989

Greenacre, Michael J.
Correspondence Analysis in Practice
Academic Press, 1993

Greenacre, Michael J, Hastie, Trevor
The Geometric Interpretation of Correspondence Analysis
Journal of the American Statistical Association, June 1987, Vol. 82, No. 382

van der Heijden, Peter G.M., de Leeuw, Jan
Correspondence Analysis Used Complementary to Loglinear Analysis
Psychometrika, 50, December

Hoffman, Donna L., Franke, George R.
Correspondence Analysis: Graphical Representation of Categorical Data in Marketing Research
Journal of Marketing Research, XXIII, August 1986.

Kanji, Gopal K.
100 Statistical Tests
Sage Publications, 1993

Lebart, Ludovic, & Morineau, Alain, and Warwick, Kenneth M.
Multivariate Descriptive Statistical Analysis: Correspondence Analysis and Related Techniques for Large Data Matrices
NY, John Wiley and Sons, Inc., 1984

Lilien, Gary L., Rangaswamy, Arvind
Marketing Engineering
Addison Wesley, 1997

Michelaud, Françoise-Xavier
Correspondence Analysis
Ramses Abul Naga's Advanced Econometrics Workshop at HEC, 1996

Myers, James H.
Segmentation and Positioning for Strategic Marketing Decisions
American Marketing Association, 1996

Pearson, Egon Sharpe and Hartley, H. O.
Biometrika Tables for Statisticians
Cambridge University Press, 1972

Ries, Al, Trout, Jack
Positioning: The Battle For Your Mind
Warner Books, 1982

Ries, Al, Trout, Jack
Marketing Warfare
Mc Graw Hill, 1986

Ries, Al, Trout, Jack
Focus
Harper Collins, 1996

Rizzi, Alfredo
Analisi dei Dati, Applicazione dell'Informatica alla Statistica
Nuova Italia Scientifica, 1985

Rogus, Carol and Elisabeth M. Berry
Correspondence Analysis: The Picture That's Worth a Thousand Numbers
Marketing Review 41, 1986

Tenenhaus, Michel, Young, Forrest W.
An Analysis and Synthesis of Multiple Correspondence Analysis, Optimal Scaling, Dual Scaling, Homogeneity Analysis and Other Methods for Quantifying Categorical Multivariate Data
Psychometrika, 50, March

Torres, Anna, Greenacre, Michael
Mesuring Asymmetries in Brand Associations Using Correspondence Analysis
Unoversitat Pompeu Fabra

Weller, Susan C., Romney, A. Kimball
Metric Scaling Correspondence Analysis
Sage University Paper, 1990

Wind, Joram Y.
Product Policy: Concepts, Methods and Strategy
Addison Wesley, 1981

Wish, M.
Individual Differences in Perceptions and Preferences among nations
From: Attitude Research Reaches New Heights
American Marketing Association, Chicago, 1971

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