

<<多元数据分析>>

图书基本信息

书名：<<多元数据分析>>

13位ISBN编号：9787111341987

10位ISBN编号：7111341988

出版时间：2011-6

出版时间：机械工业出版社

作者：Joseph F. Hair, William C. Black, Barry J. Babin, Rolph E. Anderson

页数：800

版权说明：本站所提供下载的PDF图书仅提供预览和简介，请支持正版图书。

更多资源请访问：<http://www.tushu007.com>

<<多元数据分析>>

内容概要

《多元数据分析（英文版）（第7版）》是一本面向应用的经典多元数据分析教材，自1979年出版第1版至今，深受读者好评。

《多元数据分析（英文版）（第7版）》循序渐进地介绍了各种多元统计分析方法，并通过丰富的实例演示了这些方法的应用。

书中不仅涵盖多元数据分析的基本方法，而且还介绍了一些新方法，如结构方程建模和偏最小二乘法等。

<<多元数据分析>>

作者简介

作者：（美国）海尔（Joseph F.Hair.Jr.）（美国）William C.Black（美国）Barry J.Babin 等海尔（Joseph F Hair, Jr.），于1971年获得佛罗里达大学市场营销博士学位.现为肯尼索州立大学市场营销系教授。

他出版了四十多本书，包括《Marketing》、《Marketing Essentials》等。

他是美国市场营销协会、市场营销科学学会、西南市场营销协会和南方市场营销学会委员。

2004年他被美国市场营销科学学会授予杰出教育奖，2007年被市场管理协会授予创新性市场营销人才

。

William C.Black，于1980年获得德州大学奥斯汀分校博士学位，现为路易斯安那州立大学工商管理学院市场营销系教授。

他的研究兴趣包括多元统计、应用信息技术，以及与电子商务相关的市场原理的进展。

他是《Journal of BusinessResearch》编审委员会成员。

Barry J.Babin于1991年获得路易斯安那州立大学工商管理学博士学位，现为路易斯安那理工大学市场营销与定量分析学教授、商学院Max P.Watson教授。

他主要研究零售的各个方面和服务管理。

他还曾被美国市场营销科学研究院和市场营销学会评为杰出研究员。

Rolph E.Anderson，拥有佛罗里达大学博士学位，现为Drexel大学工商管理学院Royal H.Gibson Sr教授。

他曾两次获得Drexel大学优秀教师奖，并获得过《Journal of Personal Selling & Sales Management》杰出评论奖、Drexel大学商学院科研成就奖等。

<<多元数据分析>>

书籍目录

preface iii

about the authors v

chapter 1 introduction: methods and model building

what is multivariate analysis?

multivariate analysis in statistical terms

some basic concepts of multivariate analysis

the variate

measurement scales

measurement error and multivariate measurement

statistical significance versus statistical power

types of statistical error and statistical power

impacts on statistical power

using power with multivariate techniques

a classification of multivariate techniques

dependence techniques

interdependence techniques

types of multivariate techniques

principal components and common factor analysis

multiple regression

multiple discriminant analysis and logistic regression

canonical correlation

multivariate analysis of variance and covariance

conjoint analysis

cluster analysis

perceptual mapping

correspondence analysis

structural equation modeling and confirmatory factor

analysis

guidelines for multivariate analyses and interpretation

establish practical significance as well as statistical
significance

recognize that sample size affects all results

know your data

strive for model parsimony

look at your errors

validate your results

a structured approach to multivariate model building

stage 1: define the research problem, objectives,
and multivariate technique to be used

stage 2: develop the analysis plan

stage 3: evaluate the assumptions underlying the multivariate

technique

stage 4: estimate the multivariate model and assess overall model

fit

stage 5: interpret the variate(s)

<<多元数据分析>>

- stage 6: validate the multivariate model
- a decision flowchart
- databases
- primary database
- other databases
- organization of the remaining chapters
- section i: understanding and preparing for multivariate analysis
- section ii: analysis using dependence techniques
- section iii: interdependence techniques
- section iv: structural equations modeling
 - summary 28 . questions 30 . suggested readings
 - references
- section i understanding and preparing for multivariate analysis
 - chapter 2 cleaning and transforming data
 - introduction
 - graphical examination of the data
 - univariate profiling: examining the shape of the distribution
 - bivariate profiling: examining the relationship between variables
 - bivariate profiling: examining group differences
 - multivariate profiles
 - missing data
 - the impact of missing data
 - a simple example of a missing data analysis
 - a four-step process for identifying missing data and applying remedies
 - an illustration of missing data diagnosis with the four-step process
 - outliers
 - detecting and handling outliers
 - an illustrative example of analyzing outliers
 - testing the assumptions of multivariate analysis
 - assessing individual variables versus the variate
 - four important statistical assumptions
 - data transformations
 - an illustration of testing the assumptions underlying multivariate analysis
 - incorporating nonmetric data with dummy variables
 - summary 88 . questions 89 . suggested readings
 - references
- chapter 3 factor analysis
 - what is factor analysis?
 - a hypothetical example of factor analysis
 - factor analysis decision process

<<多元数据分析>>

stage 1: objectives of factor analysis
 specifying the unit of analysis
 achieving data summarization versus data reduction
 variable selection
 using factor analysis with other multivariate techniques

stage 2: designing a factor analysis
 correlations among variables or respondents
 variable selection and measurement issues
 sample size
 summary

stage 3: assumptions in factor analysis
 conceptual issues
 statistical issues
 summary

stage 4: deriving factors and assessing overall fit
 selecting the factor extraction method
 criteria for the number of factors to extract

stage 5: interpreting the factors
 the three processes of factor interpretation
 rotation of factors
 judging the significance of factor loadings
 interpreting a factor matrix

stage 6: validation of factor analysis
 use of a confirmatory perspective
 assessing factor structure stability
 detecting influential observations

stage 7: additional uses of factor analysis results
 selecting surrogate variables for subsequent analysis
 creating summated scales
 computing factor scores
 selecting among the three methods
 an illustrative example

stage 1: objectives of factor analysis
 stage 2: designing a factor analysis
 stage 3: assumptions in factor analysis
 component factor analysis: stages 4 through 7
 common factor analysis: stages 4 and 5
 a managerial overview of the results
 summary 148 . questions 150 . suggested readings
 references

section ii analysis using dependence techniques

chapter 4 simple and multiple regression
 what is multiple regression analysis?
 an example of simple and multiple regression
 prediction using a single independent variable:
 simple regression
 prediction using several independent variables:

<<多元数据分析>>

multiple regression

summary

a decision process for multiple regression analysis

stage 1: objectives of multiple regression

research problems appropriate for multiple regression

specifying a statistical relationship

selection of dependent and independent variables

stage 2: research design of a multiple regression analysis

sample size

creating additional variables

stage 3: assumptions in multiple regression analysis

assessing individual variables versus the variate

methods of diagnosis

linearity of the phenomenon

constant variance of the error term

independence of the error terms

normality of the error term distribution

summary

stage 4: estimating the regression model and assessing overall

model fit

selecting an estimation technique

testing the regression variate for meeting the regression

assumptions

examining the statistical significance of our model

identifying influential observations

stage 5: interpreting the regression variate

using the regression coefficients

assessing multicollinearity

stage 6: validation of the results

additional or split samples

calculating the press statistic

comparing regression models

forecasting with the model

illustration of a regression analysis

stage 1: objectives of multiple regression

stage 2: research design of a multiple regression analysis

stage 3: assumptions in multiple regression analysis

stage 4: estimating the regression model and assessing overall

model fit

stage 5: interpreting the regression variate

stage 6: validating the results

evaluating alternative regression models

a managerial overview of the results

summary 231 . questions 234 . suggested readings

references

chapter 5 canonical correlation

what is canonical correlation?

<<多元数据分析>>

hypothetical example of canonical correlation
 developing a variate of dependent variables
 estimating the first canonical function
 estimating a second canonical function
 relationships of canonical correlation analysis to other

multivariate techniques

stage 1: objectives of canonical correlation analysis
 selection of variable sets
 evaluating research objectives
 stage 2: designing a canonical correlation analysis
 sample size
 variables and their conceptual linkage
 missing data and outliers

stage 3: assumptions in canonical correlation
 linearity
 normality

homoscedasticity and multicollinearity
 stage 4: deriving the canonical functions and assessing overall

fit

deriving canonical functions
 which canonical functions should be interpreted?
 stage 5: interpreting the canonical variate

canonical weights
 canonical loadings
 canonical cross-loadings
 which interpretation approach to use
 stage 6: validation and diagnosis
 an illustrative example

stage 1: objectives of canonical correlation analysis
 stages 2 and 3: designing a canonical correlation analysis and

testing the assumptions

stage 4: deriving the canonical functions and assessing overall

fit

stage 5: interpreting the canonical variates
 stage 6: validation and diagnosis
 a managerial overview of the results
 summary 258 . questions 259 . references

chapter 6 conjoint analysis

what is conjoint analysis?
 hypothetical example of conjoint analysis
 specifying utility, factors, levels, and profiles
 gathering preferences from respondents
 estimating part-worths
 determining attribute importance
 assessing predictive accuracy
 the managerial uses of conjoint analysis
 comparing conjoint analysis with other multivariate methods

<<多元数据分析>>

compositional versus decompositional techniques
 specifying the conjoint variate
 separate models for each individual
 flexibility in types of relationships
 designing a conjoint analysis experiment
 stage 1: the objectives of conjoint analysis
 defining the total utility of the object
 specifying the determinant factors
 stage 2: the design of a conjoint analysis
 selecting a conjoint analysis methodology
 designing profiles: selecting and defining factors and

levels

specifying the basic model form
 data collection
 stage 3: assumptions of conjoint analysis
 stage 4: estimating the conjoint model and assessing overall

fit

selecting an estimation technique
 estimated part-worths
 evaluating model goodness-of-fit
 stage 5: interpreting the results
 examining the estimated part-worths
 assessing the relative importance of attributes
 stage 6: validation of the conjoint results
 managerial applications of conjoint analysis
 segmentation
 profitability analysis
 conjoint simulators
 alternative conjoint methodologies
 adaptive/self-explicated conjoint: conjoint with
 a large number of factors
 choice-based conjoint: adding another touch of realism
 overview of the three conjoint methodologies
 an illustration of conjoint analysis
 stage 1: objectives of the conjoint analysis
 stage 2: design of the conjoint analysis
 stage 3: assumptions in conjoint analysis
 stage 4: estimating the conjoint model and assessing overall

model fit

stage 5: interpreting the results
 stage 6: validation of the results
 a managerial application: use of a choice simulator
 summary 327 . questions 330 . suggested readings
 references

chapter 7 multiple discriminant analysis and logistic

regression

what are discriminant analysis and logistic regression?

<<多元数据分析>>

discriminant analysis
 logistic regression
 analogy with regression and manova
 hypothetical example of discriminant analysis
 a two-group discriminant analysis: purchasers versus
 nonpurchasers
 a geometric representation of the two-group discriminant
 function
 a three-group example of discriminant analysis: switching
 intentions
 the decision process for discriminant analysis
 stage 1: objectives of discriminant analysis
 stage 2: research design for discriminant analysis
 selecting dependent and independent variables
 sample size
 division of the sample
 stage 3: assumptions of discriminant analysis
 impacts on estimation and classification
 impacts on interpretation
 stage 4: estimation of the discriminant model and assessing
 overall fit
 selecting an estimation method
 statistical significance
 assessing overall model fit
 casewise diagnostics
 stage 5: interpretation of the results
 discriminant weights
 discriminant loadings
 partial f values
 interpretation of two or more functions
 which interpretive method to use?
 stage 6: validation of the results
 validation procedures
 profiling group differences
 a two-group illustrative example
 stage 1: objectives of discriminant analysis
 stage 2: research design for discriminant analysis
 stage 3: assumptions of discriminant analysis
 stage 4: estimation of the discriminant model and assessing
 overall fit
 stage 5: interpretation of the results
 stage 6: validation of the results
 a managerial overview
 a three-group illustrative example
 stage 1: objectives of discriminant analysis
 stage 2: research design for discriminant analysis
 stage 3: assumptions of discriminant analysis

<<多元数据分析>>

stage 4: estimation of the discriminant model and assessing overall fit

stage 5: interpretation of three-group discriminant analysis results

stage 6: validation of the discriminant results
a managerial overview

logistic regression: regression with a binary dependent variable

representation of the binary dependent variable
sample size

estimating the logistic regression model
assessing the goodness-of-fit of the estimation model
testing for significance of the coefficients
interpreting the coefficients

calculating probabilities for a specific value of the independent variable

overview of interpreting coefficients
summary

an illustrative example of logistic regression

stages 1, 2, and 3: research objectives, research design, and statistical assumptions

stage 4: estimation of the logistic regression model and assessing overall fit

stage 5: interpretation of the results

stage 6: validation of the results

a managerial overview

summary 434 . questions 437 . suggested readings

references

chapter 8 anova and manova

manova: extending univariate methods for assessing group differences

multivariate procedures for assessing group differences

a hypothetical illustration of manova

analysis design

differences from discriminant analysis

forming the variate and assessing differences

a decision process for manova

stage 1: objectives of manova

when should we use manova?

types of multivariate questions suitable for manova

selecting the dependent measures

stage 2: issues in the research design of manova

sample size requirements—overall and by group

factorial designs—two or more treatments

using covariates—ancova and manova

manova counterparts of other anova designs

a special case of manova: repeated measures

<<多元数据分析>>

stage 3: assumptions of anova and manova
 independence
 equality of variance – covariance matrices
 normality
 linearity and multicollinearity among the dependent

variables

sensitivity to outliers
 stage 4: estimation of the manova model and assessing overall

fit

estimation with the general linear model
 criteria for significance testing
 statistical power of the multivariate tests
 stage 5: interpretation of the manova results
 evaluating covariates
 assessing effects on the dependent variate
 identifying differences between individual groups
 assessing significance for individual dependent variables

stage 6: validation of the results

summary

illustration of a manova analysis
 example 1: difference between two independent groups

stage 1: objectives of the analysis

stage 2: research design of the manova

stage 3: assumptions in manova

stage 4: estimation of the manova model and assessing the overall

fit

stage 5: interpretation of the results
 example 2: difference between k independent groups

stage 1: objectives of the manova

stage 2: research design of manova

stage 3: assumptions in manova

stage 4: estimation of the manova model and assessing overall

fit

stage 5: interpretation of the results
 example 3: a factorial design for manova with two independent

variables

stage 1: objectives of the manova

stage 2: research design of the manova

stage 3: assumptions in manova

stage 4: estimation of the manova model and assessing overall

fit

stage 5: interpretation of the results
 summary
 a managerial overview of the results
 summary 498 . questions 500 . suggested readings
 references

section iii analysis using interdependence techniques

<<多元数据分析>>

chapter 9 grouping data with cluster analysis

- what is cluster analysis?

- cluster analysis as a multivariate technique

- conceptual development with cluster analysis

- necessity of conceptual support in cluster analysis

- how does cluster analysis work?

- a simple example

- objective versus subjective considerations

- cluster analysis decision process

- stage 1: objectives of cluster analysis

- stage 2: research design in cluster analysis

- stage 3: assumptions in cluster analysis

- stage 4: deriving clusters and assessing overall fit

- stage 5: interpretation of the clusters

- stage 6: validation and profiling of the clusters

- an illustrative example

- stage 1: objectives of the cluster analysis

- stage 2: research design of the cluster analysis

- stage 3: assumptions in cluster analysis

- employing hierarchical and nonhierarchical methods

- step 1: hierarchical cluster analysis (stage 4)

- step 2: nonhierarchical cluster analysis (stages 4, 5, and

6)

- summary 561 . questions 563 . suggested readings

- references

chapter 10 mds and correspondence analysis

- what is multidimensional scaling?

- comparing objects

- dimensions: the basis for comparison

- a simplified look at how mds works

- gathering similarity judgments

- creating a perceptual map

- interpreting the axes

- comparing mds to other interdependence techniques

- individual as the unit of analysis

- lack of a variate

- a decision framework for perceptual mapping

- stage 1: objectives of mds

- key decisions in setting objectives

- stage 2: research design of mds

- selection of either a decompositional (attribute-free)

- or compositional (attribute-based) approach

- objects: their number and selection

- nonmetric versus metric methods

- collection of similarity or preference data

- stage 3: assumptions of mds analysis

- stage 4: deriving the mds solution and assessing overall

<<多元数据分析>>

fit

determining an object ' s position in the perceptual map
 selecting the dimensionality of the perceptual map
 incorporating preferences into mds
 stage 5: interpreting the mds results
 identifying the dimensions
 stage 6: validating the mds results
 issues in validation
 approaches to validation
 overview of multidimensional scaling
 correspondence analysis
 distinguishing characteristics
 differences from other multivariate techniques
 a simple example of ca
 a decision framework for correspondence analysis
 stage 1: objectives of ca
 stage 2: research design of ca
 stage 3: assumptions in ca
 stage 4: deriving ca results and assessing overall fit
 stage 5: interpretation of the results
 stage 6: validation of the results
 overview of correspondence analysis
 illustrations of mds and correspondence analysis
 stage 1: objectives of perceptual mapping
 identifying objects for inclusion
 basing the analysis on similarity or preference data
 using a disaggregate or aggregate analysis
 stage 2: research design of the perceptual mapping study
 selecting decompositional or compositional methods
 selecting firms for analysis
 nonmetric versus metric methods
 collecting data for mds
 collecting data for correspondence analysis
 stage 3: assumptions in perceptual mapping
 multidimensional scaling: stages 4 and 5
 stage 4: deriving mds results and assessing overall fit
 stage 5: interpretation of the results
 overview of the decompositional results
 correspondence analysis: stages 4 and 5
 stage 4: estimating a correspondence analysis
 stage 5: interpreting ca results
 overview of ca
 stage 6: validation of the results
 a managerial overview of mds results
 summary 623 . questions 625 . suggested readings
 references

section iv structural equations modeling

<<多元数据分析>>

chapter 11 sem: an introduction

what is structural equation modeling?

estimation of multiple interrelated dependence

relationships

incorporating latent variables not measured directly

defining a model

sem and other multivariate techniques

similarity to dependence techniques

similarity to interdependence techniques

the emergence of sem

the role of theory in structural equation modeling

specifying relationships

establishing causation

developing a modeling strategy

a simple example of sem

the research question

setting up the structural equation model for path analysis

the basics of sem estimation and assessment

six stages in structural equation modeling

stage 1: defining individual constructs

operationalizing the construct

pretesting

stage 2: developing and specifying the measurement model

sem notation

creating the measurement model

stage 3: designing a study to produce empirical results

issues in research design

issues in model estimation

stage 4: assessing measurement model validity

the basics of goodness-of-fit

absolute fit indices

incremental fit indices

parsimony fit indices

problems associated with using fit indices

unacceptable model specification to achieve fit

guidelines for establishing acceptable and unacceptable fit

stage 5: specifying the structural model

stage 6: assessing the structural model validity

structural model gof

competitive fit

comparison to the measurement model

testing structural relationships

summary 678 . questions 680 . suggested readings

appendix 11a: estimating relationships using path analysis

appendix 11b: sem abbreviations

appendix 11c: detail on selected gof indices

references

<<多元数据分析>>

chapter 12 applications of sem

part 1: confirmatory factor analysis

cfa and exploratory factor analysis

a simple example of cfa and sem

a visual diagram

sem stages for testing measurement theory validation with

cfa

stage 1: defining individual constructs

stage 2: developing the overall measurement model

unidimensionality

congeneric measurement model

items per construct

reflective versus formative constructs

stage 3: designing a study to produce empirical results

measurement scales in cfa

sem and sampling

specifying the model

issues in identification

avoiding identification problems

problems in estimation

stage 4: assessing measurement model validity

assessing fit

path estimates

construct validity

model diagnostics

summary example

cfa illustration

stage 1: defining individual constructs

stage 2: developing the overall measurement model

stage 3: designing a study to produce empirical results

stage 4: assessing measurement model validity

hbat cfa summary

part 2: what is a structural model?

a simple example of a structural model

an overview of theory testing with sem

stages in testing structural theory

one-step versus two-step approaches

stage 5: specifying the structural model

unit of analysis

model specification using a path diagram

designing the study

stage 6: assessing the structural model validity

understanding structural model fit from cfa fit

examine the model diagnostics

sem illustration

stage 5: specifying the structural model

stage 6: assessing the structural model validity

<<多元数据分析>>

part 3: extensions and applications of sem
reflective versus formative measures
reflective versus formative measurement theory
operationalizing a formative construct
distinguishing reflective from formative constructs
which to use—reflective or formative?
higher-order factor analysis
empirical concerns
theoretical concerns
using second-order measurement theories
when to use higher-order factor analysis
multiple groups analysis
measurement model comparisons
structural model comparisons
measurement bias
model specification
model interpretation
relationship types: mediation and moderation
mediation
moderation
longitudinal data
additional covariance sources: timing
using error covariances to represent added covariance
partial least squares
characteristics of pls
advantages and disadvantages of pls
choosing pls versus sem
summary 778 . questions 781 . suggested readings
references
index

章节摘录

版权页：插图：Missing data are termed missing at random (MAR) if the missing values of Y depend on X, but not on Y. In other words, the observed Y values represent a random sample of the actual Y values for each value of X, but the observed data for Y do not necessarily represent a truly random sample of all Y values. Even though the missing data process is random in the sample, its values are not generalizable to the population. Most often, the data are missing randomly within subgroups, but differ in levels between subgroups. The researcher must determine the factors determining the subgroups and the varying levels between groups. For example, assume that we know the gender of respondents (the X variable) and are asking about household income (the Y variable). We find that the missing data are random for both males and females but occur at a much higher frequency for males than females. Even though the missing data process is operating in a random manner within the gender variable, any remedy applied to the missing data will still reflect the missing data process because gender affects the ultimate distribution of the household income values. A higher level of randomness is termed missing completely at random (MCAR). In these instances the observed values of Y are truly a random sample of all Y values, with no underlying process that lends bias to the observed data. In simple terms, the cases with missing data are indistinguishable from cases with complete data. From our earlier example, this situation would be shown by the fact that the missing data for household income were randomly missing in equal proportions for both males and females. In this missing data process, any of the remedies can be applied without making allowances for the impact of any other variable or missing data process.

Diagnostic Tests for Levels of Randomness. As previously noted, the researcher must ascertain whether the missing data process occurs in a completely random manner. When the data set is small, the researcher may be able to visually see such patterns or perform a set of simple calculations (such as in our simple example at the beginning of the chapter). However, as sample size and the number of variables increases, so does the need for empirical diagnostic tests. Some statistical programs add techniques specifically designed for missing data analysis (e.g., Missing Value Analysis in SPSS), which generally include one or both diagnostic tests. The first diagnostic assesses the missing data process of a single variable Y by forming two groups: observations with missing data for Y and those with valid values of Y. Statistical tests are then performed to determine whether significant differences exist between the two groups on other variables of interest. Significant differences indicate the possibility of a nonrandom missing data process. Let us use our earlier example of household income and gender. We would first form two groups of respondents, those with missing data on the household income question and those who answered the question. We would then compare the percentages of gender for each group. If one gender (e.g., males) was found in greater proportion in the missing data group, we would suspect a nonrandom missing data process. If the variable being compared is metric (e.g., an attitude or perception) instead of categorical (gender), then t-tests are performed to determine the statistical significance of the difference in the variable's mean between the two groups. The researcher should examine a number of variables to see whether any consistent pattern emerges. Remember that some differences will occur by chance, but either a large number or a systematic pattern of differences may indicate an underlying nonrandom pattern. A second approach is an overall test of randomness that determines whether the missing data can be classified as MCAR.

<<多元数据分析>>

编辑推荐

《多元数据分析(英文版)(第7版)》特色：以循序渐进方式（流水线方式）组织内容：在内容组织上，各章集中概述一个论题，每章均从基础开始并讨论应用。

后面各章逐步深入。

扩展各种方法应用：对"经验法则"给出解释，包括像样本容量这类重要问题。

重新组织结构方程建模这一重要内容，包括结构方程建模概述、验证-性因素分析、估计和检验结构模型的相关问题，以及验证性因素分析和结构方程建模的一些高级主题，如检验更高阶因子模型、群组模型、调节变量与中间变量。

版权说明

本站所提供下载的PDF图书仅提供预览和简介，请支持正版图书。

更多资源请访问:<http://www.tushu007.com>