Index

A
ABI/INFORM, online database 75
Abstract attributes, measurement issues 192
Abstract (executive summary) of a report 341
Accounting resources 77
Achievement motivation concept, operationalizing 194–5
Action-oriented research 26
Action problem 25
Action research 106
Active participation 131
Administrative and classification questions 153–4
Alpha (α)/type I errors 280
Alternate hypothesis 95–7
Alternative solutions, research report offering 338, 339, 353–5
Ambiguous questions 148
American Psychological Association (APA), format for referencing articles 78
AMOS 301, 303
Analysis of variance (ANOVA) 288
two-way ANOVA 298
Analytic induction 321
APA format for referencing articles 78
Applied research 4–5
Area sampling 231
example of use 239
pros and cons 235
Argument development 328–9
types of 329–32
Attitude Toward the Offer scale 212
Attitudinal measures. see Scales
Audience for research report 339
Authorization letter, research report 343

B
Back translation, cross-cultural research 156
Background information 48–9
Background information, preliminary research 49–50
Balanced rating scale 204
Bar charts 262–4, 345
Basic research 6
Behavioral finance research measures 216
Beta (β)/type II errors 279–80
Beta coefficients 292
Bias 120
interviews 120–3
minimizing 121–3
observer 140
questionnaires 146, 148, 152, 154, 155
in selection of participants 173
self-selection, online surveys 249
systematic 228, 232, 235, 238, 249
Bibliographical databases 78
Big data 321
Blank responses, dealing with 256, 259
Body of research report 343–4
Bootstrapping 301
Box-and-whisker plot 266
Briefing 28
Business opportunities 26–7
Business Periodicals Index (BPI) 75
Business research, defined 2
Canonical correlation 299
CAPI (computer-assisted personal interviewing) 124–5
Case study research method 106
internal validity 176
Categories and subcategories 311
Categorization of data 310
Category reliability 319
Category scale 203
CATI (computer-assisted telephone interviews) 123
Causal research questions 57–8
Causal (cause-and-effect) studies 104, see also Experimental designs
longitudinal studies 112–13
researcher interference 106–10
Central tendency measures 261, 262, 264, 269–70
Characteristics of conclusions 326–8
Chi-square (χ²) distribution 286
Chi-square (χ²) statistic 267–8
Chicago Manual of Style 78
Chicago Manual of Style 71
Chronbach’s alpha
reliability analysis 270–3
Citations, APA format 78
Classification data
example questions 151
Classification questions 153–4
Client organization 31
Closed questions 147–8
Cluster sampling 231–2
example of use 238–9
pros and cons 235
Coding of responses
qualitative data analysis 307, 308, 310
quantitative data analysis 256–8
Coding schemes, structured observation 138–9
Column charts 345
Comparative scale 207–8
Comparative surveys 156
Completely randomized design 187
Complex probability sampling 228–32
area sampling 231
cluster sampling 231–2
double sampling 232
pros and cons 235
stratified random sampling 229–31
systematic sampling 229
when to choose 236
Computer-assisted interviews (CAI) 124–5
Computer-assisted personal interviewing (CAPI) 124–5
Computer-assisted telephone interviews (CATI) 123
Concealed observation 132
Conceptual analysis 320
Conceptual equivalence, instrument translation 156
Conclusion drawing (discussion) 318–19
Conclusion of questionnaire 153
Conclusion of research report 344
Concurrent validity 209, 210
Conference proceedings 67
Confidence 242
and estimation of sample size 242–3
trade-off with precision 243–4
Confidentiality 61, 150, 158
Conjoint analysis 297–8
Consensus problems 44
Consensus scale 206
Consistency reliability 212, 270–1
case study 271–3
Constant sum rating scale 205
Construct, operationalizing 193
Construct validity 210–11
Constructionism 23
Consultants/researchers 8–9
external 10–11
internal 9–10
and managers 8–9
Content analysis 320
Content validity 209, 210
Contextual factors, preliminary research 49

COPYRIGHTED MATERIAL
Data collection methods

cross-cultural issues 156–7
ethical issues 158–9
interviews 119–27
multimethods 157–8
observation 129–41
primary 117–19
pros and cons of different 157–8

Data coding 256–8

Data categorization 311–17

Data analysis 21

Data mining 302–3

Data display, qualitative data analysis 307, 318
effect size 258–9

Data editing 258–9

Data interpretation 21

Data interpretation 21

Data preparation (prior to analysis) 255–60

Data presentation, pictorial 345

Data sources 67–8

Data transformation 260

Databases

one online 75–6

Decile 265

Deductive research 21

Degrees of freedom (df) 267

Delphi technique 158

Demographic data, questionnaires 151

Departments/divisions as the unit of analysis

Dependent variable 85–6

Descriptive observation 135

Descriptive research questions 56–7

Descriptive statistics 260–6, 273–6

bar charts and pie charts 262–4

central tendency measures 262, 264
dispersion measures 265–6

frequencies 262–4

Descriptive (correlational) studies

noncontrived settings 108–10

researcher interference 106–8

Dichotomous scale 203

Discriminant analysis 296

Discriminant validity 210, 273

dispersion measures 262, 265–6, 269–70

Disproportionate stratified random sampling

230–1, 235
deciding when to choose 236

effect size 258–9

efficiency in sampling 249–50

Electronic databases

Databases

econlit, online database 75

Employee Satisfaction Survey 328

Epistemology 23

Estimation of sample data, precision and
certainty in 242–3

Ethical issues 11–12

concealed observation 132–3

developmental and inductive designs 61

Ex post facto designs 181–2

Excelsior Enterprises case study 254–5

descriptive statistics 269–70, 273–6

Econlit, online database 75

Evidence 325, 326

determination of sample size 223–4

determination of sample size 223–4

Ex post facto experimental designs 181–2

Experimental designs 164–89

completely randomized design 187

decision points for 183

determination of sample size 223–4

evivisection 183–4

field experiments 170

lab experiments 166–9

Latin square design 188–9

managerial implications 183–4

quasi designs 177–8

randomized block design 188

simulation 182

tedious design 179

tedious design 179

true designs 179

types of design 177–82

validity issues 170–7

Experiments 104–5

Expert panels 126

Delphi technique 158

Exploration stage 28–9

Exploratory research questions 56
External consultants/researchers 10–11
External validity
  defined 170
  generalizability of lab experiments 170–1
  interactive testing as threat to 173, 175, 176
  selection bias effects as threat to 173, 175
  trade-off with internal 171

F
  F statistic 288
  Face-to-face interviews 123–4, 157
  Face validity 209, 210
  Faces scale 152, 206
  Factor analysis 210, 273, 303, 304
  Factorial design 189, 298
  Factorial validity 273
  Falsifiability, hypothesis criterion 21, 96, 279
  Feel for data 260–9
  Field experiments 108, 170
    external validity 171
    unintended consequences 171
  Field notes 136
  Field studies 108
  Figures and tables list, research report 342
  Final part of research report 344
  Financial and economic resources 77–8
  Fixed (rating) scale 205
  Focus groups 125
  Focused observation 135
  Forced choice ranking scale 207
  Formative scale 212–13
  Frequencies 262–4
    charts and histograms 262–4, 274
    measures 138, 199
    observed and expected 267
  Frequency distributions 262
  Funneling, interview technique 122

G
  Generalizability 19. see also External validity
  lab experiments 170–1
  qualitative research 320
  sample data and population values 224, 225
  and sample size 241
  simple random sampling 228, 235, 236
  “Going native (pure participation)” 133
  Goodness of fit 291
  Goodness of measures 208–12, 270–6
    reliability 211–12, 270–3
    validity 208–11, 273
  Graphic rating scale 206
  Grounded theory 106, 250, 310
  Group interviews 125–6
  Group matching 168
  Groups as the unit of analysis 110–12

H
  Hawthorne studies 132
  Histograms 262, 274
  History effects 171–2
  Human error 256

Hypothesis definition 95
Hypothesis development 20–1, 94–5
  definition of hypothesis 95
  directional and nondirectional hypotheses 95
  example of 100
  null and alternate hypotheses 95–7
  statement of hypotheses 94–5
Hypothesis testing 279–306
  data mining 302–3
  Excelsior Enterprises case study 300–2
  negative case method 98
  operations research (OR) 303
  sample data and 244–6
  software packages 303–4
  statistical power 280
  statistical techniques 280–99
  steps to follow 97
  type I and type II 279–80
Hypothetico-deductive method 20–2

I
  Idea generation 35
  Idiomatic equivalence, translation issues 156
  Illegal codes 259, 270
  Illogical responses 258
  IMF eLibrary (Data) 75
  IMF eLibrary (Publications) 75
  Inconsistent responses 258–9
  Independent samples t-test 287
  Independent variable 86–7
    manipulation of 167–8
    versus moderating variable 88–90
  Individuals as the unit of analysis 111
  Inductive reasoning
    analytic induction 321
  Industry as the unit of analysis 111
  Industry evaluation 35
  Inferential statistics 279
  Information 325
  Information overload, measure for 216
  Instrumentation effects 176, 179
  Intelligence 25
  Interaction effects, regression analysing 293–6
  Interactive testing effects
    controlling for, Solomon four-group 180–1
    threat to external validity 173, 175, 176
  Interference by researcher 106–8
  Interitem consistency reliability 212
  Interjudge reliability 320
  Internal consistency of measures 212, 270–1
  Internal consultants/researchers 9–10
  Internal validity
    case studies 176
    defined 170
    history effects 171–2
    instrumentation effects 174–5
    lab experiments 170
    main testing effects 173
    maturation effects 172
    mortality effects 174
  statistical regression effects 174
  threat identification 175–6
  trade-off with external 171
  International dimensions of
    operationalization 196
  International dimensions of scaling 208
  International research journals 75
  Internet
    clickstream data 118
    information source, literature review 68
    online questionnaires 144–5, 154
    qualitative information 308
    websites for business research 76–8
  Interquartile range 266
  Interval scales 200–1, 202
    itemized rating scale 204
    properties 201
    Stapel scale 205–6
    visual summary for variables 261
  Intervening (mediating) variable 90–2
  Interviewer bias, minimizing 123
  Interviewer training 120
  Interviewing techniques 123
  Interviews
    advantages and disadvantages 127
    computer-assisted 124–5
    face-to-face 123–4
    primary data collection 171–19
    structured 119
    taped 122
    techniques 120–3
    telephone 123–4
    unstructured 119
  Introductory section
    example 99
    questionnaire design 154
    research report 343
    itemized rating scale 204

J
  Journals 67
  Judgment sampling 233
  example of use 240
  pros and cons 235

K
  Kendall’s tau coefficients 269
  Knowledge about research 11

L
  Lab experiments 109, 166–9
    control of contaminating factors 166
    control of nuisance variables 168–9
    external validity 170–1
    internal validity 169–70
    manipulation of independent variable 167–8
  Latin square design 188–9
  Leading questions 148
  Letter of authorization, research report 343
  Likert scale 199, 204–5
  ordinal versus interval debate 202
Linear regression 289–90
LISREL 303
Literature review 64–73
documenting the review 70–1
ethical issues 71–2
evaluation of literature 69–70
example of 98–9
literature search 68
referencing format 78
sources of data 67–8
specific functions of 66
to understand the problem 30
written report 343, 355
Loaded questions 122, 148
Logically Fallacious 332–3
Logistic regression 297
Longitudinal studies 112–13

M
Mail questionnaires 144
Main testing effect 173
Management accounting research methods 217
Management problem
consensus problems 44
decision opportunities 34, 35
definition 36–7
exploration 38
information problem 44
research process (see Research process)
technical/routine problem 43
Management research measures 217–18
Managerial implications 333–4
experimental design 183–4
problem definition 100
questionnaire administration 158
research design 115
theoretical framework 99–100
theoretical framework development 99–100
Managers
consultant–researcher 8–9
importance of research knowledge for 7–8
knowledge of research 7–8
Manipulation, lab experiments 167–8
MANOVA (multivariate analysis of variance) 298–9
Manual for Writers (Turabian) 78
Marginal homogeneity 286
Market opportunities and constraints 35
Marketing research measures 218–20
Matching groups 168
MATLAB 303
Maturation effects 172
McNemar’s test 286–7
Mean 261, 262, 264
Measurement
meaning of 198, 199
scaling 198–215
variables, operational definition 190–7
Measures, examples of 216–20
Measures of central tendency and dispersion
262, 264–6
Median 261, 264
Mediated regression analysis 300–1
Mediating variable 90–2
Method section, research report 356–8
Minimal researcher interference 109
Missing data 259, 270
Mixed research methods 113–14
Mode 261, 264
Moderate researcher interference 107–8
Moderating variable 87–90
contingent effect 88
versus independent variable 88–90
interaction effects 293–6
Moderating variables
and theoretical framework 94
Moderation testing 293–6
Moderator, focus groups 126
Monitoring performance 35
Mortality effects 174
Motivation of respondents 121–2
Mplus 301, 303
Multi-item measures, checking
reliability of 271–3
Multicollinearity 293
Multiple regression analysis 291–2
multicollinearity 293
Multistage cluster sampling 232
efficiency of 249
Multivariate analysis of variance
(MANOVA) 298–9
Multivariate statistical techniques 281, 296–9
canonical correlation 299
conjoint analysis 297–8
discriminant analysis 296
logistic regression 297
MANOVA 298–9
multiple regression analysis 291–2
two-way ANOVA 298
MUSE 75
N
Narrative analysis 320–1
Nations as the unit of analysis 110
Negative case analysis 98
Newspapers, source of data 68
Nominal scale 199
Nominal variables 287
relationship between two 267–8
Non-print media, referencing 79–80
Non-probability sampling 226, 232–5
convenience 233
judgment 233
pros and cons 235
purposive 233–4
quota 233–4
when to choose 236
Non-response errors 228
Noncontrived study setting 108–10
field experiments 109
Nondirectional hypotheses 96
Nonparametric statistics
chi-square (χ²) test 267–8
McNemar’s test 286–7
Wilcoxon signed-rank test 286
Nonparticipant observation 133–4
Nonresponses, coding of 256
Normal distribution 224, 225
Note-taking
field notes 136
when interviewing 122–3
Nuisance variables, controlling 168–9
Null hypotheses 95–7
and sample data 244–5
type I and type II errors 279
Numerical scale 203–4. see Research objective(s)

O
Objectivity 19
Objects, measurable attributes of 189
Observation 20, 129–41
closed versus uncontrived 132
closed versus uncontrolled 130
definition and purpose 130
effects at the time of 130
examples of 130
participant 132–5
participant versus nonparticipant 130–1
pros and cons 139–41
structured 137–9
unstructured 131–2
Observer bias 140
Omissions in questionnaire items 259
One sample t-test 282–3
One-shot studies 111
One-way ANOVA 288–9
Online databases 75–6
Online documents, referencing format for 80
Online questionnaires 144–5
Online research 144–5
improving response rates 145
sampling issues 249
Online surveys 144, 249
Ontology 23
Open-ended questions 147, 152
Operationalization (operational definition) 192
type of 192
international dimensions 196
Operations 25
Operations research (OR) 303
Oral presentation 346–8
deciding content 347
handling questions 348
presentation 348
presenter 348
visual aids 347
Orbis 75
Ordinal scale 200
and Likert scales 202
visual summary 261
and managers 7–8
in organizations 25
planning, collection and analyses of
data 31
pragmatic approach 24–30
preliminary stages 29–30
Research approaches 16–17
alternative 22–4
characteristics of scientific 17–20
hypothetico-deductive method 20–2
Research design 103
contrived and noncontrived study
setting 108–10
interference of researcher in study 106–8
managerial implications 115
management problem 51
managerial implications 60–1
preliminary information 61
problem statement 52–5
research proposal 58–60
Research process
causal research questions 57–8
causal 51
descriptive research questions 56–7
descriptive 56
exploratory research questions 56
exploratory 56
management problem 51
managing problem 51
managerial implications 60–1
preliminary information 61
problem statement 52–5
Research Papers in Economics (RePEc) 75
Researcher interference 106–8
interference of researcher in study 106–8
Research strategies 104–6
action research 106
action 106
and ethics 11–12
and literature review 66, 69–70
Research reports 337–49
descriptive report examples 350–3
examples 350–8
oral presentation 346–8
written report 337–40
Research question(s) 52, 356
causal 57–8
causal 57–8
and coding scheme development 138
descriptive 56–7
descriptive 56
examples of 55
elements of 55
exploratory 56
and literature review 66, 69–70
Researcher interference 106–8
Response coding 256–8
Response rates, improving 145
Restricted probability sampling 228–32
Reverse scoring 260. see also Literature review
Rigor 17

S
Sample
defined 223
link to population values 224–5
Sample data
hypothesis testing with 244–6
making population estimates with 242–3
Sample frame 226
Sample size 246–9
certainty and precision issues 241–4
deciding 227
determination of 246–8
determination of 246–8
and efficiency in sampling 249
and generalizability 246
and normality of distributions 224, 225
rules of thumb 249
statistical and practical significance 248
and Type II errors 248
Sampling
in qualitative research 249–50
Sampling design 228–41
appropriateness of certain designs 236–41
choice of 226, 236
non-probability 232–5
probability 228–32
and sample size 246–9
Sampling frame 226
and online research 249
systematic sampling 238
Sampling process 225–8
dealing with non-responses 228
executing 227–8
Sampling unit 223
SAS/STAT 303
Scales 198–207
formative 212–13
international dimensions 208
interval 200–1
interval 200–1
nominal 199
ordinal 200
ranking 207–8
rating 202–7
ratio 201–2
reflective 212
reliability 211–12
validity 208–11
Scanning data, product sales 118
Scatterplots 261, 268, 289–90
Scientific research 16–32
hypothetico-deductive method 20–2
main characteristics of 17–20
Secondary data 2, 48, 49. see also

Literature review

criteria 50
Selection bias effects 176
Selective observation 135, 136
Self-selection bias, online surveys 249
Semantic differential scale 203
Semi-interquartile range 201, 261
Semi-structured interviews 119
Sensitive data, questionnaires 152, 153
Sequence record 139
Setting of study 108–10
Significance levels 19, 242, 248, 280
Simple checklist 139
Simple random sampling 228
efficiency of 249
example of use 237
pros and cons 235
Simple regression analysis 289–90
Simulation 182
Single-stage cluster sampling 232
Social desirability 149
Social Science Research Network (SSRN) 75
Software packages
data analysis 303–4
field notes/interviewing 125
plagiarism detection 72
survey design 155
Solomon four-group design 179–81
Spearman’s rank correlation 267, 269
Split-half reliability 212, 271
“Sponsor,” participant observation 134
SPSS (Statistical Package for the Social Sciences) 303, 304
SPSS AMOS 303, 304
Square of multiple r (R-square) 292, 300
SSRN (Social Science Research Network) 75
Stability of measures 211, 271
Stakeholders 35–6
Standard deviation 224
defined 265
precision and confidence 241–2
and sample size 246–7
Standard error 242, 300
Standardized regression coefficients 292
Stapel scale 205–6
Stata 303, 304
Statement of hypotheses 94–5
Statistical power (1–β) 280
Statistical regression effects 174, 176
Statistical significance criterion 280
Statistical techniques for hypothesis testing 280–99
about a single mean 282–3
about several means 288–9
about two related means 283–7
about two unrelated means 287–8
other multivariate tests and analyses 296–9
regression analysis 289–96
Strategy development 25
Stratified random sampling 229–30
example of use 237–8
proportionate and disproportionate 230–1
pros and cons 235
Structured interviews
face-to-face and telephone interviews 123–4, 126
Structured observation 131–2
use of coding schemes in 138–9
Structured questions 154
pretesting of 155
Study setting 108–10
Subject, defined 223
Summated scale. see Likert scale
Surveys 105
electronic/online 144
ethical issues 158–60
software design systems 154
telephone 123
Systematic bias 229, 232, 235, 238, 249
Systematic sampling 229
example of use 238
pros and cons 235
when to choose 236
T
T distribution 245
T-statistic 282, 284
T-test
independent samples 287
one sample 282–3
paired samples 283
T-value 283, 284
Table of contents, research report 342
example 346
Target population, defining 226
Technical/routine problem 43
Telephone directory, sampling frame 238
Telephone interviews 123–4
computer-assisted 124–5
pros and cons 126–7, 157
Test-retest reliability 211, 271
Testability, hypothesis criterion 18
Testable statement, hypothesis definition 94
Testing effects 173
Textbooks, data source 67
Theoretical framework 84–5
components of 93–4
examples of 99–100, 356
identifying the problem 92
Theoretical sampling, grounded theory 106, 250
Theses, literature reviews 67
Thurstone Equal Appearing Interval Scale 206
Tichy Matrix 39, 40
Time horizon of study 112–13
Time series design 178
Title of research report 340–1
Tolerance value 293
Toulmin’s model 331
Trade-offs
confidence and precision 243–4
internal and external validity 171
research design choice 114
Training of interviewers 120
Transformation of data 260
Translation issues, cross-cultural research 156
Treatment, experimental designs 167
Triangulation 113–14, 320
True experimental designs 179–81
Two-way ANOVA 298
Type I errors 279–80
Type II errors 279–80
and sample size 248
U
Unbalanced rating scale 204
Unbiased questions 122
Unconcealed observation 132
Uncontrolled observation 130
Uncontrolled variables 180
Unit of analysis 110–11, 223
Unit of observation 223
Univariate statistical techniques 281
chi-square analysis 267
independent samples t-test 287
McNemar’s test 286–7
one sample t-test 282–3
one-way ANOVA 288–9
paired samples t-test 283
Wilcoxon signed-rank test 286
Unobtrusive data collection methods 118
Unpublished manuscripts 67–8
Unrestricted probability sampling 228
Unstructured interviews 119, 126
Unstructured observation 131–2
V
Validity 139, 208, 273, 319–20. see also
External validity; Internal validity
concurrent 209, 210
construct 210–11
criterion 209, 210
convergent 210, 273
criterion-related 209–10, 273
discriminant 210, 273
face 209, 210
factorial 273
predictive 210
threats to 175–6
and types of experimental design 177–82
Variables
contaminating 168–9
dependent 85–6
discrete 85
dummy 292–3, 296
exogenous 168–9
independent 86–7
measurement of 190–2
mediating 90–2
Variables (Continued)
  nuisance 168–9
  operationalization of 192–6
  relationships between 267–8
  research reports 357
  uncontrolled 172
Variance, calculation of 265
Variance inflation factor (VIF) 293
Videoconferencing 126, 354
Visual aids
  for interviews 120
  report presentation 347
Vocabulary equivalence, back translation
  ensuring 156
  “V”s of big data 321

W
  Waiting for service, defining 65–6
  Web of Stories 75
  Websites for business research 76–7
  Wilcoxon signed-rank test 286
  World Development Indicators 76
  World Development Indicators (World Bank) 76
Written report 337–40
  abridged basic report example 355–8
  appendix 345–6
  audience for 339
  authorization letter 343
  basic features of good 340
  body of report 343–4
  comprehensive report examples 339, 353–5
  contents 340–6
  descriptive report examples 338
  executive summary 341
  final section/conclusion 344
  introductory section 343
  list of tables and figures 342
  pictorial data presentation 345
  preface 342
  purpose of 338–9
  references 344
  table of contents 346
  title and title page 340–1
Z
  Zephyr 76