

Data analysis and research report



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Data processing

Editing

- ensures that the information from questionnaire is **complete, accurate** and **consistent**
- checking for **errors** and **omissions**

Coding

- assigning numeric codes to different questions responses
- codes are designed to be exhaustive, mutually exclusive, meaningful, consistent and easy to use in data analysis

Tabulation

- to prepare quantitative data so that they are readily understandable
- counting the frequency of certain cases within classifications relevant to particular surveys (data matrix: columns = variables, rows = individual cases)

Data processing

Coding example

1. Do you have a checking account with the bank?
Yes ☐ 1
No ☐ 0 [If no, terminate and record.]
2. Which type of checking accounts do you have?
Senior Yes ☐ 1 No ☐ 0 (1/1)
Now Yes ☐ 1 No ☐ 0 (1/2)
State Yes ☐ 1 No ☐ 0 (1/3)
3. Do you have an automatic teller card with your account?
Yes ☐ 1 (1/4)
No ☐ 0 [If no, go to question 5.]
4. Do you use the ATM for (read list)
Deposits Yes ☐ 1 No ☐ 0 (1/5)
Withdrawals Yes ☐ 1 No ☐ 0 (1/6)
Transfers Yes ☐ 1 No ☐ 0 (1/7)
[Show card demonstrating bank by phone service.]
5. If the bank offered this service would you
Definitely use ☐ 1 (1/8)
Probably use ☐ 2
Might or might not use ☐ 3
Probably not use ☐ 4
Definitely not use ☐ 5
6. Gender [Record, don't ask.]
Female ☐ 1 (1/9)
Male ☐ 2
7. Age group
18-34 ☐ 1 (1/10)
35-54 ☐ 2
55+ ☐ 3
8. Household income
Less than \$15,000 ☐ 1 (1/11)
\$15,000 to \$29,999 ☐ 2
\$30,000 to \$49,999 ☐ 3
\$50,000 or more ☐ 4

Data analysis

- **Descriptive analysis**
- **Bivariate analysis**
- **Multivariate analysis**

Data analysis

Descriptive analysis

- frequency table and percentages
- mean, mode, median – base?
- standard deviation
- range

Sample: SPSS Frequency Output

Affect Feelings about commercial you just saw					
Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
liked it very much	1.00	36	6.7	6.7	6.7
liked it	2.00	169	31.3	31.6	38.3
neither liked/disliked	3.00	191	35.4	35.7	74.0
disliked it	4.00	90	16.7	16.8	90.8
disliked it very much	5.00	49	9.1	9.2	100.0
		<u>5</u>	<u>.9</u>	<u>Missing</u>	
	Total	540	100.0	100.0	
Valid cases 535 Missing cases 5					

Data analysis

Bivariate analysis

- to test the significance of differences and measure the association between variables
- parametric hypothesis tests - for interval-scaled or ratio-scaled data
- non-parametric statistical procedures are applied for nominal- or ordinal-scaled data

Example of hypotheses

- *Respondents with lower income are more likely to spend more money on their mobile phones.*
- *Women are more likely to go to McDonalds with children, whereas men with friends.*
- *Respondents who spend on Netflix more than 3 hours a day strongly agree that there is plenty content available on Netflix.*
- *Respondents who have heard of Airbnb are more likely to use Airbnb during the Covid-19 pandemic than those who haven't heard.*
- *Satisfaction with the accommodation positively influences the total satisfaction with the travel agents' services.*

Data analysis

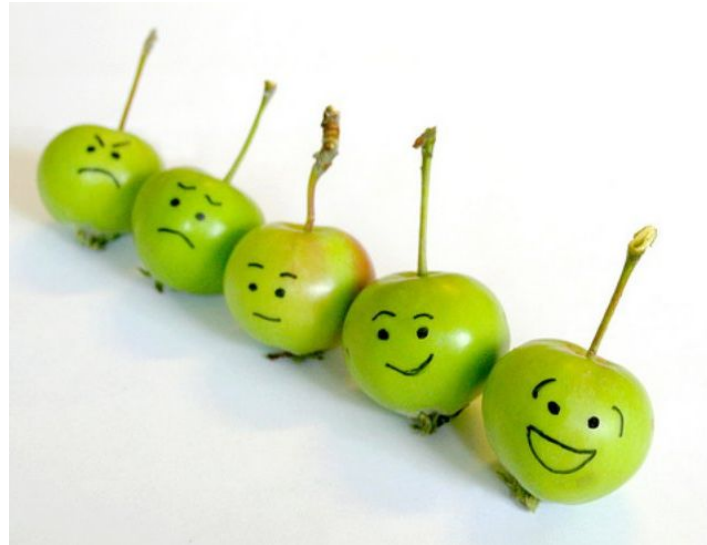
Multivariate analysis

- for simultaneous investigation of more than two variables
- e.g. factor analysis – to identify the main factors affecting the customer satisfaction with the services of travel agents

Example: IPA

Importance-performance analysis = quadrant analysis

- satisfaction studies



Quadrant analysis



**Two
rating
scales**

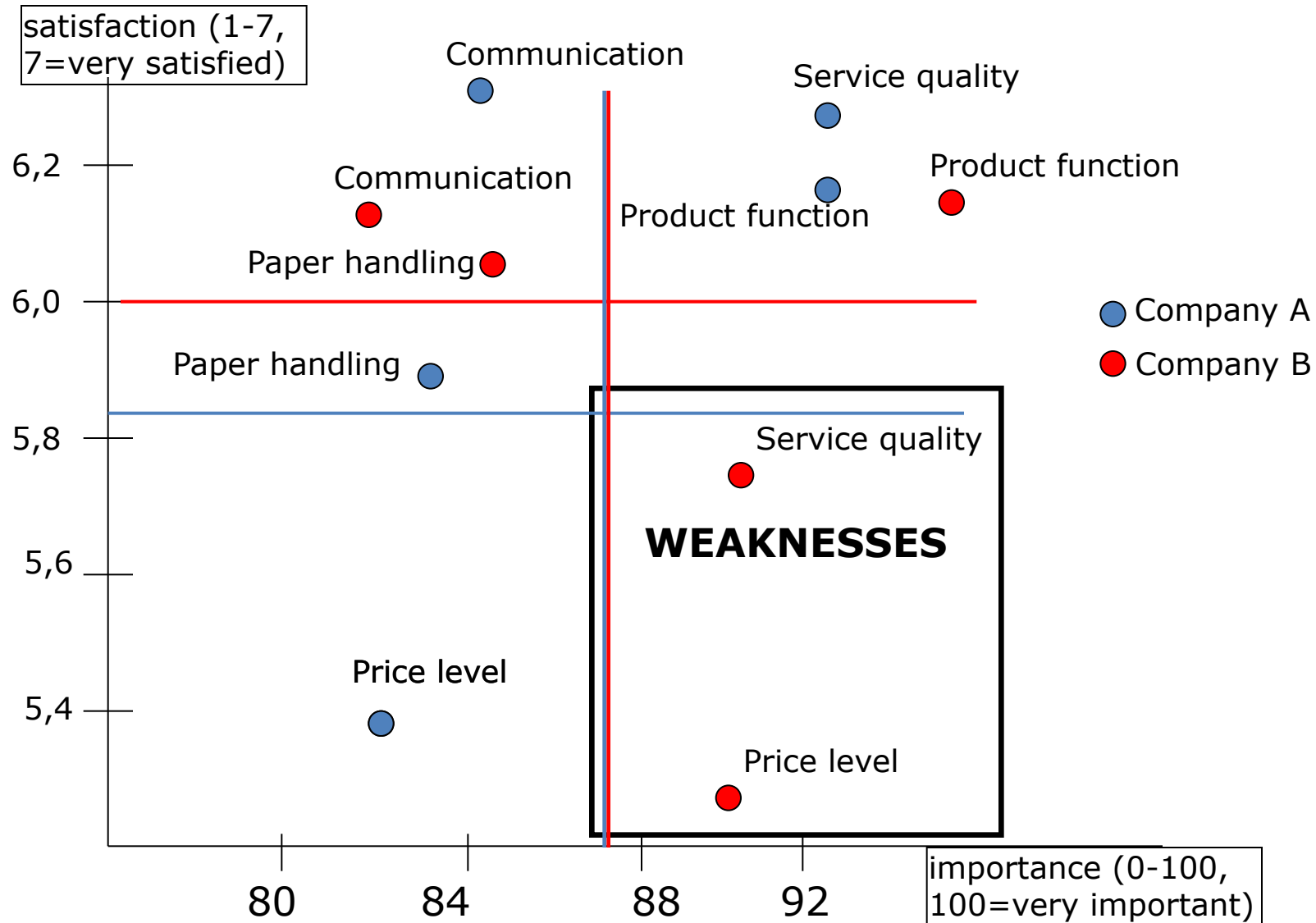
**4 quadrants
two-dimensional
table**

**Importance-
Performance
Analysis**

Quadrant analysis

- 2 axes: satisfaction and importance
- the values of particular attributes are placed in the graph
- procedure:
 - mean of the individual attributes of satisfaction and importance
(if more companies/products => means for each particular company/product)
 - graph, x=importance, y=satisfaction
 - axes of the matrix: the total mean of all satisfaction attributes and importance attributes or just the median of those

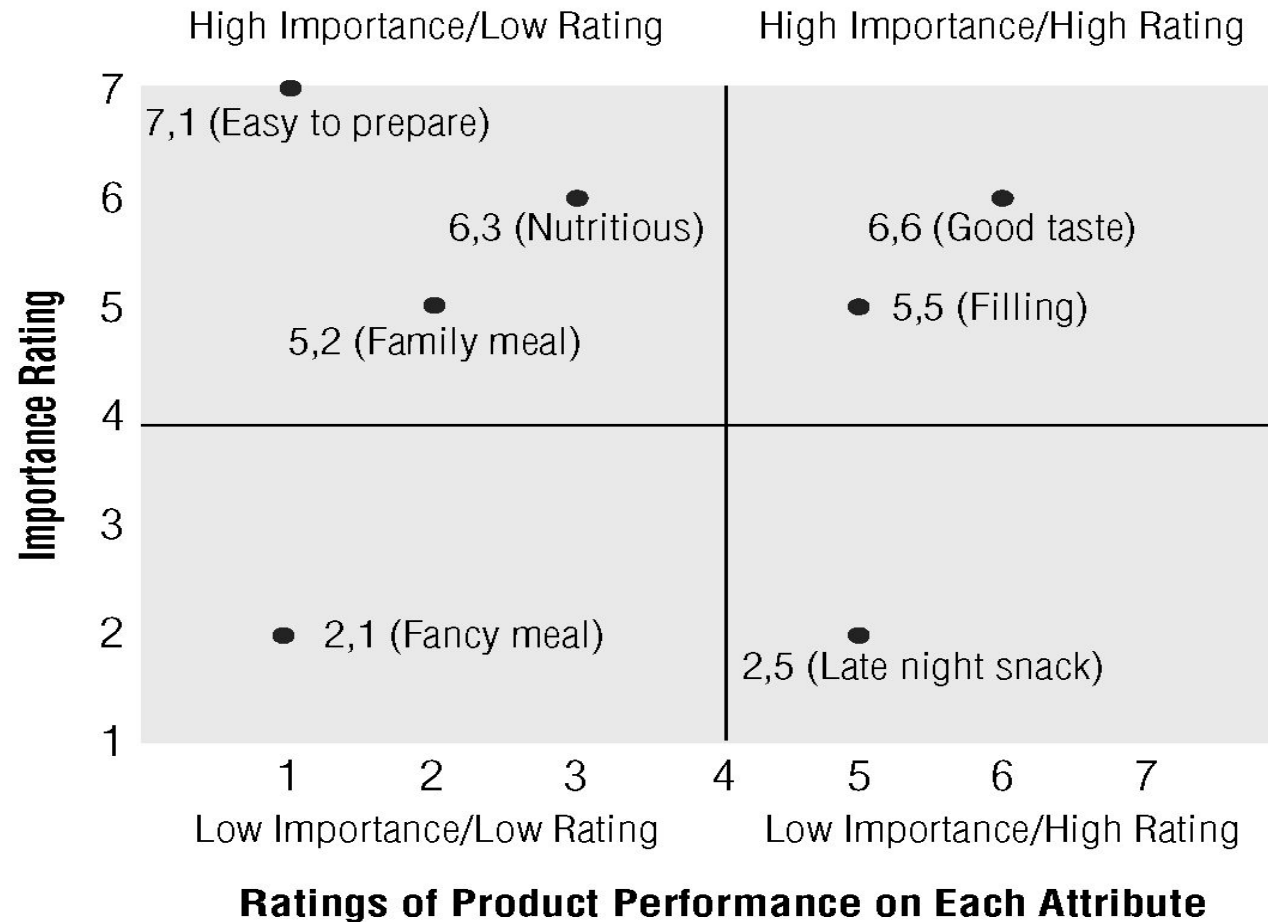
Quadrant analysis



Quadrant analysis



Quadrant analysis for a microwave meal



Marketing research report



**RESEARCH
REPORTS**

Research report structure

- Introduction
 - literature review, theoretical framework of the research study, objectives of the study, study design, research methodology and the measurement procedures
- Main body
 - findings – should be relevant to the objectives of the research
- Appendices
 - additional information

Report content

1. **Title page**
2. **Table of content**
3. **Executive summary**
 - research objectives, methodology employed, major findings, conclusions, recommendations

(why and how the research was carried out; what was found; what can be interpreted and acted upon by the manager)
4. **Introduction**
 - background details, problem definition, research objectives

Report content

5. **Research design**
 - type of design used, data collection, scaling techniques, questionnaire development and pilot testing, sampling, fieldwork
6. **Data analysis and findings**
 - analysis techniques employed, results
7. **Conclusion and recommendation**
8. **Limitations and future directions**
9. **Appendices**
 - questionnaire and forms, total statistical output, figures, big schemes

Report content - What not to do?

- explanations for selected aspects of the process
- too much detail
- too much focus on the packaging, style and format
- findings not relevant with the key research objectives

Report presentation

- preparation
- outline => content (relevant, important?)
- audio-visual aids, flipcharts

“a picture is worth a thousand words”