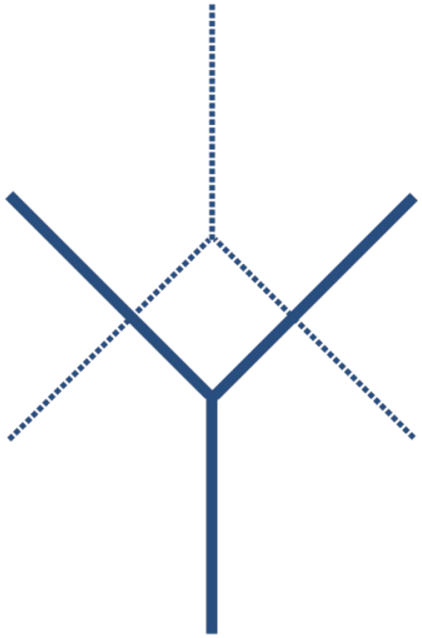


Glass Box Research®

Sharp insights to give your business a clear edge

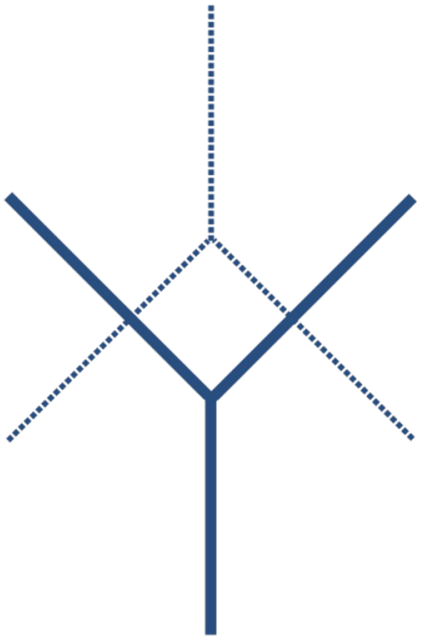
R in Market Research: *Handling 'Wide' (Not 'Big') Data*

London 15-September

EARL 2015

Outline

- Introduction
  - Who are Glass Box Research?
  - What is "wide" data?
- Managing "wide" data
  - Reducing
  - Visualizing
  - Reporting
- Discussion



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We are quantitative market researchers who design studies, write questionnaires, analyze the results, and provide strategic recommendations.

Generally, our results help brands know *Who* to target, *What* to say, and *How* to say it

Background

Shad Thomas
President Glass Box Research
Strategic Market Researcher
20+ years of experience
Educated in Advertising & Computer Science (Data Analysis)

Also Attending

Kyle Allaire
Manager of Research Services
8 Years Experience

Mark Mueller
Director of Operations
16 Years Experience

What is "Wide"

- Highly subjective definition
  - Enough variables cumbersome for analysis
  - Or difficult to share with others
- One indicator is if you are unable to view the entire structure of your dataframe with default settings

R Code Demonstration

`str` of a "wide" dataframe

Market Research Data

Typically long batteries of psychographic attitudes, functional and/or emotional brand ratings, ideal descriptions...

E.g. How well do the following statements describe your ideal experience?

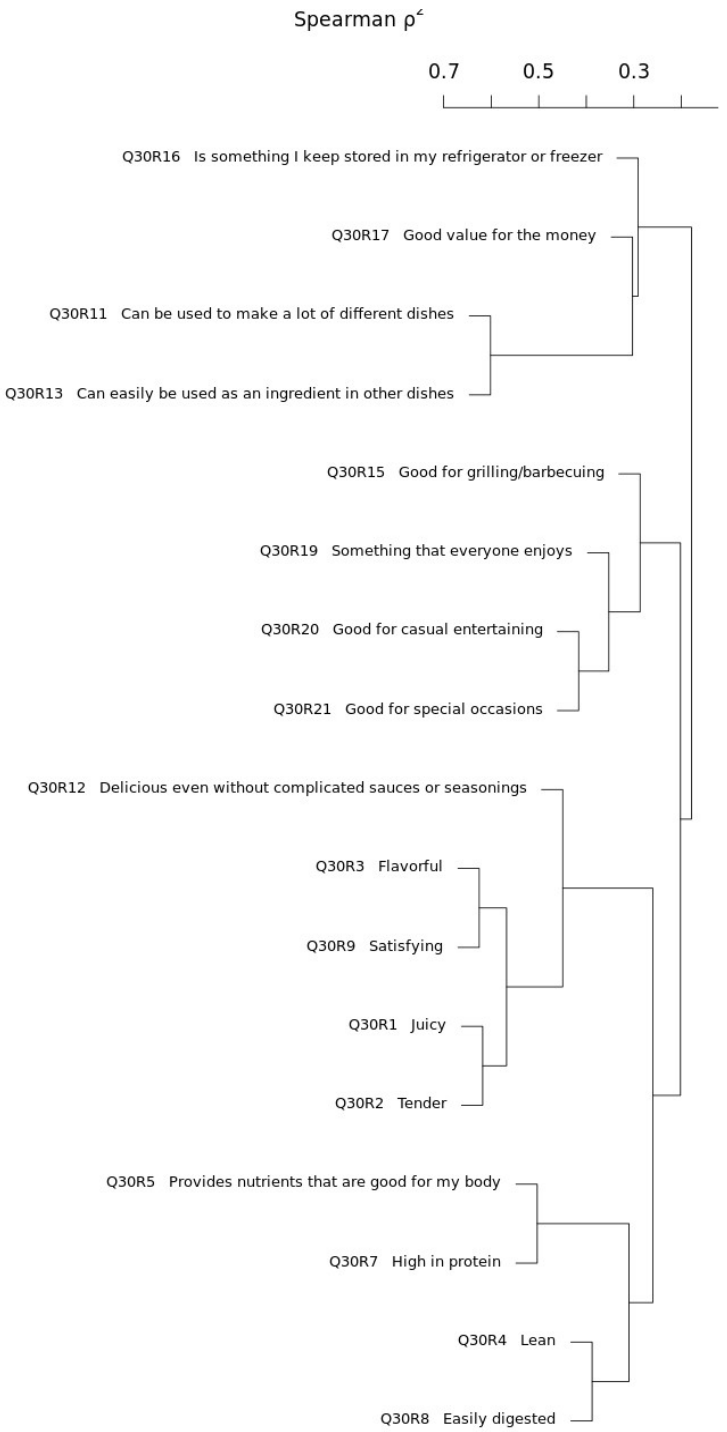
	Does Not Describe At All					Describes Perfectly
{Each respondent will rate all 55 statements in the same random order}	1	2	3	4	5	6
1. Allows you to do something new	◎	◎	◎	◎	◎	◎
2. Enables you to bond with others	◎	◎	◎	◎	◎	◎
...	◎	◎	◎	◎	◎	◎
55. Lets you feel a bit rebellious	◎	◎	◎	◎	◎	◎

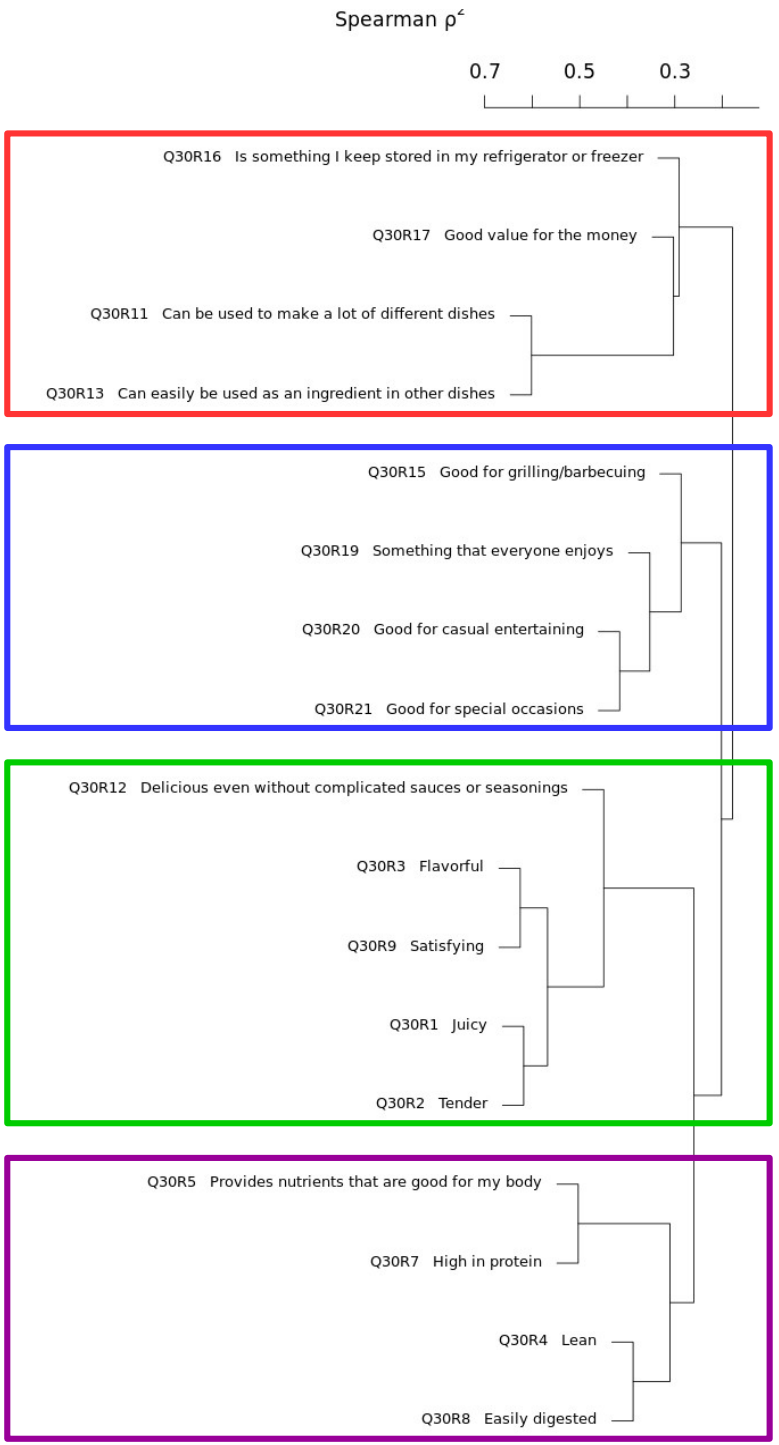
Approach #1
Reduce the Data

- How do you smartly reduce the amount of data without losing meaning?
- We use variable clustering techniques ("`varclus`") offered in the `Hmisc` package

R Code Demonstration

`Hmisc varclus`


Spearman ρ
0.7
0.5
0.3
Q30R16 Is something I keep stored in my refrigerator or freezer
Q30R17 Good value for the money
Q30R11 Can be used to make a lot of different dishes
Q30R13 Can easily be used as an ingredient in other dishes
Q30R15 Good for grilling/barbecuing
Q30R19 Something that everyone enjoys
Q30R20 Good for casual entertaining
Q30R21 Good for special occasions
Q30R12 Delicious even without complicated sauces or seasonings
Q30R3 Flavorful
Q30R9 Satisfying
Q30R1 Juicy
Q30R2 Tender
Q30R5 Provides nutrients that are good for my body
Q30R7 High in protein
Q30R4 Lean
Q30R8 Easily digested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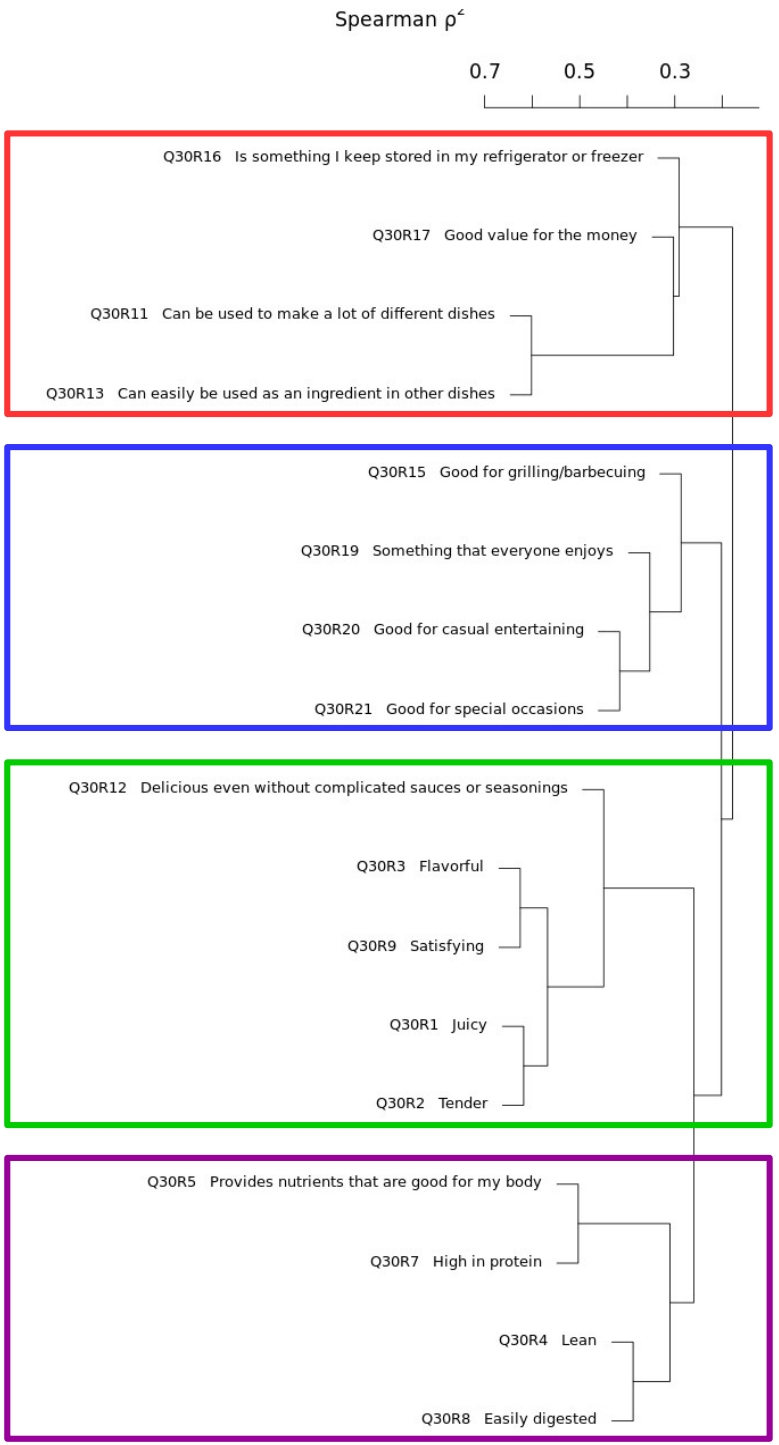


HANDY

CROWD PLEASING

TASTY

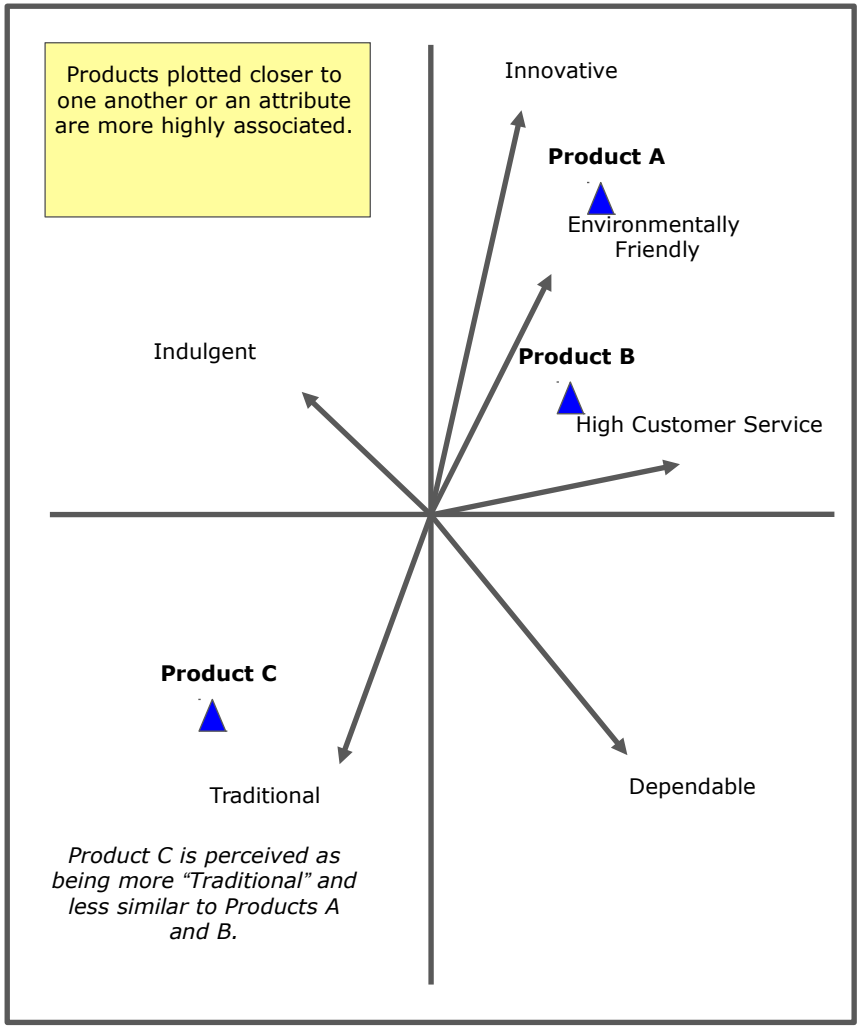
HEALTHY

Approach #2
Mapping the data

- We use a Perceptual Mapping of the Correspondence Analysis
- Describes how people perceive a subject

Benefit of Perceptual Maps

- Allows us to visualize a high number of associations.
  - Between products
  - Between attributes
- Creates a common language for the teams to use when discussing brand strategies



R Code Demonstration

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Approach #3
Report/Analyze Entire Study

- Challenges of using R for reporting:
  - Variable labels
  - Weighting
  - Tab books

Reporting Functions We Use

(Not Yet Packaged)

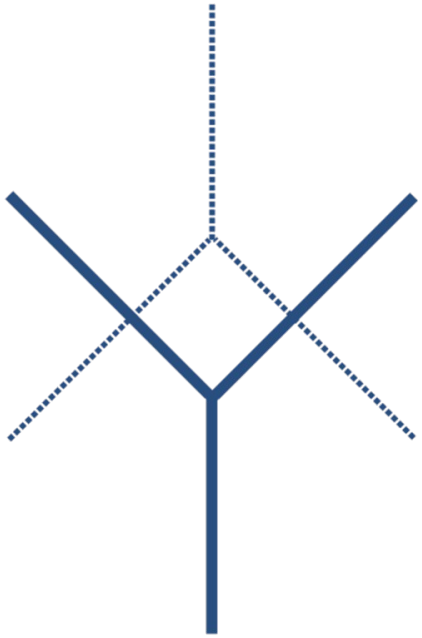
- Reading labels (data layout) from popular online questionnaire tools or SPSS
- Reporting mixed data types (e.g. categorical, continuous, scalar)
- Exporting to spreadsheets

R Code Demonstration

various unpackaged reporting functions

Summary

- Handling "wide" data can be simplified
- Helpful approaches we have found are to:
  1. Reduce the data
  2. Visualize with perceptual mapping
  3. Report entire questionnaire for analysis



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