DataExpert

Multi-step workflow for customer segmentation

István Hidegkuti, PhD

CONTENTS

- Segmentation
- Segmentation applications
- Multistep segmentation example
- Benefits

What is segmentation?

Division of a target market by

DEMOGRAPHICS

LOCATION

INTERESTS

NEEDS

Why to do segmentation?

Helps to

- Identify needs
- Meet needs
- Know your customers
- Know your competitors

Cluster-analysis example: clustering simple words

These words were collected in an open question of an online survey:

monetarily, monetarism, monetarist, monetarists, monetary, monetize, monetized, monetizes, monetizing, money, moneybag, moneybags, moneybox, moneyboxes, moneychangers, moneyed, moneylender, moneylenders, moneyless, moneymaker, moneymakers, moneymaking, moneys

Although these responses are similar there are some **misspellings**. Therefore, we were interested in the basic words the respondents wanted to write down.

Clustering the words helps to reveal the common root of these words.

THE RESULT

monetarily,
monetarism,
monetarist,
monetarists,
monetary

money
moneyed
moneylender
moneylenders
moneyless
moneys

monetize
monetized
monetizes
monetizing

moneybag
moneybags
moneybox
moneyboxes
moneychangers

moneymaker
moneymakers
moneymaking

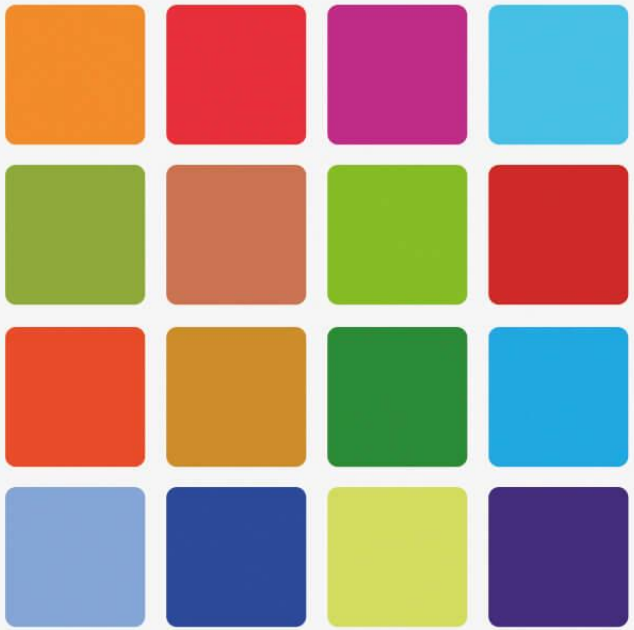
DataExpert

Cluster-analysis example:
clustering colours

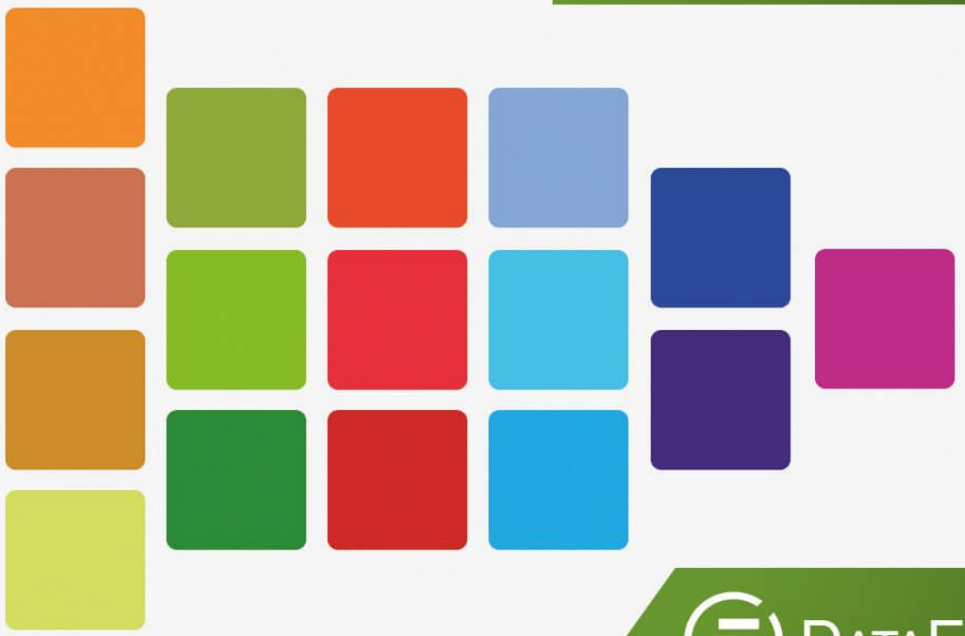
We would like to re-design our logo. We asked people to select some colours from a range and they suggested the following input colours.
Whether could these colours be grouped together to create a balanced colour scheme for our new logo?

THE RESULT

INPUT colours



OUTPUT colours

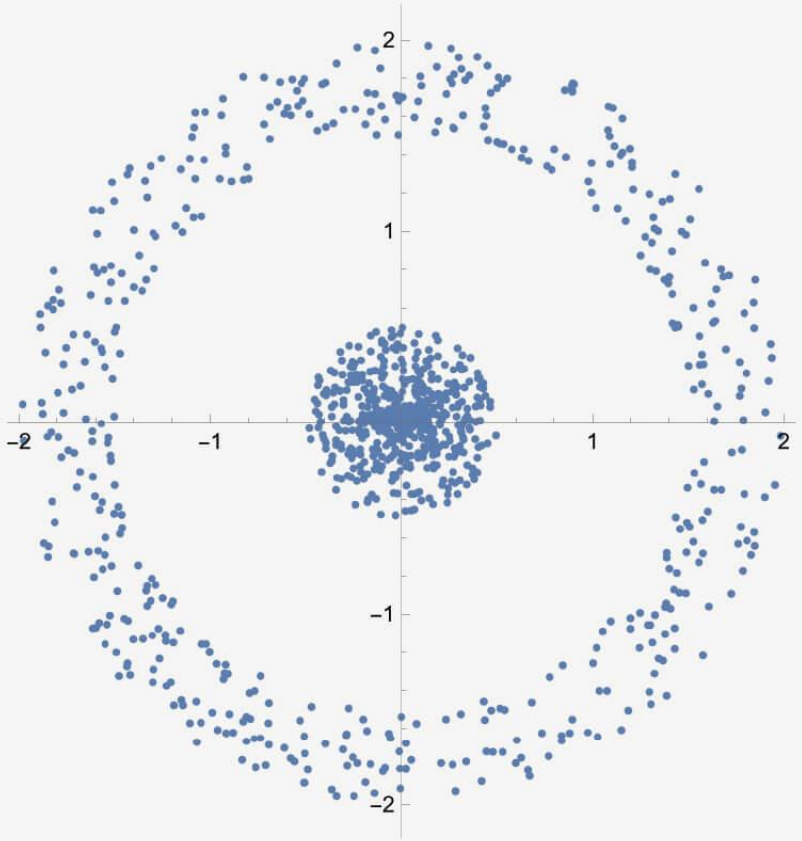


DataExpert

Cluster-analysis example:
clustering 2D data

Fig 1. shows the distribution of our data. We can clearly identify two well-separated groups forming two clusters indicated in Fig 2.

FIG.1.



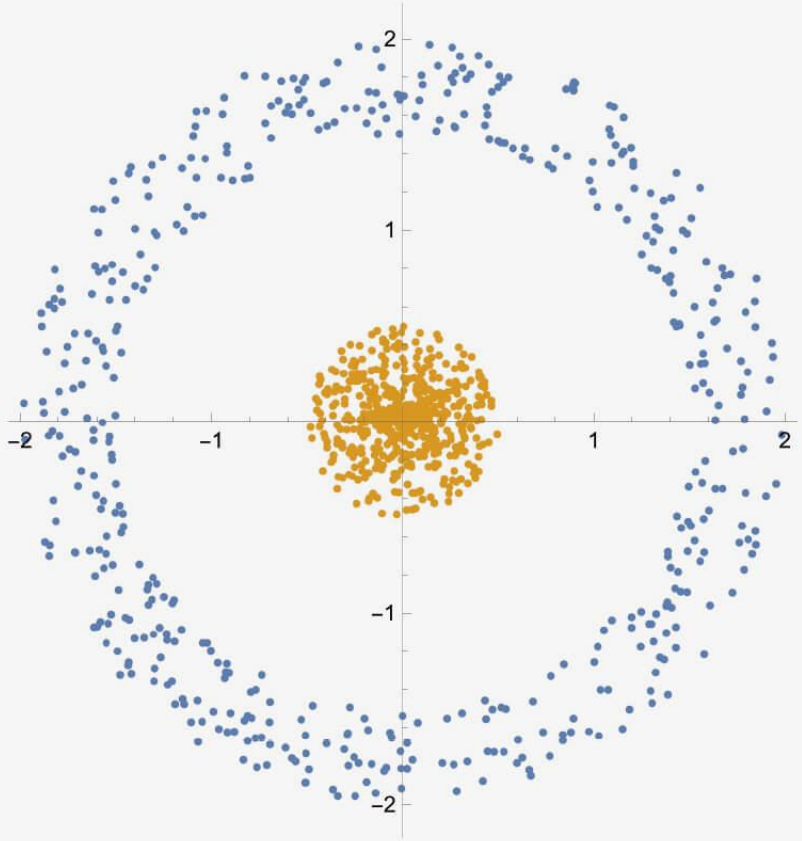


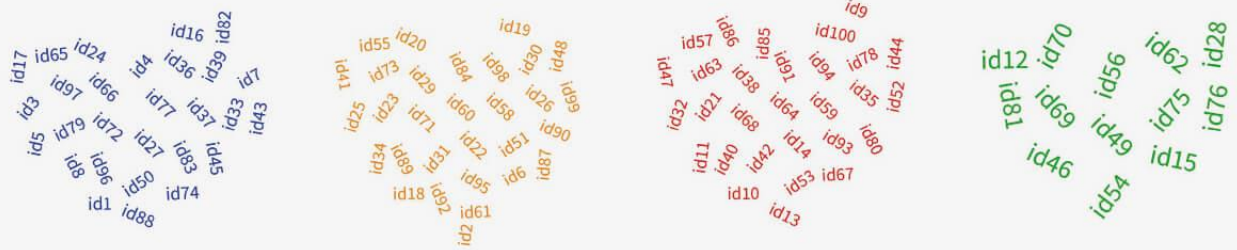
FIG.2.

DataExpert

Cluster-analysis example:
clustering 10D data

Cluster mean-profiles

Cluster members



We have choice probabilities for 10 brands calculated based on the answers given in a MaxDiff experiment.

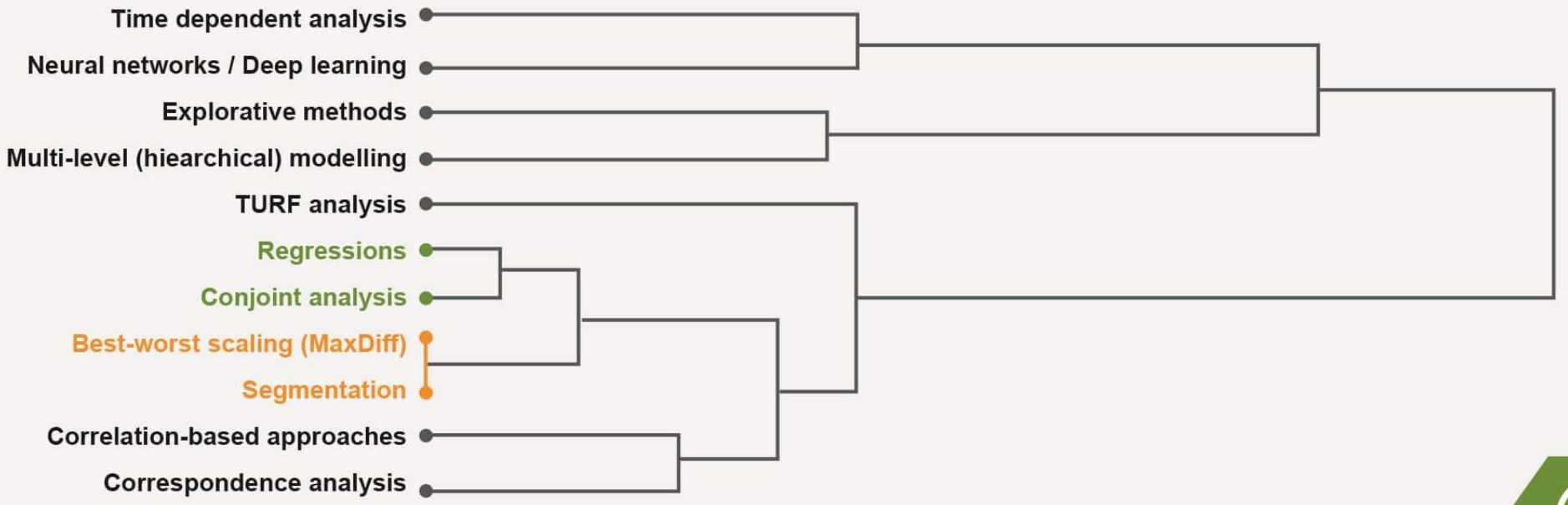
Our aim was to find segments/clusters of the respondents based on their choice probabilities.

DATAEXPERT

Cluster-analysis example:
clustering statistical methods

We asked professionals about the statistical approaches they use. We were interested in finding some pairs/groups of methods belonging together based on their usage.
We found that MaxDiff and Segmentation or Conjoint analysis and Regressions are often used together.

THE RESULT



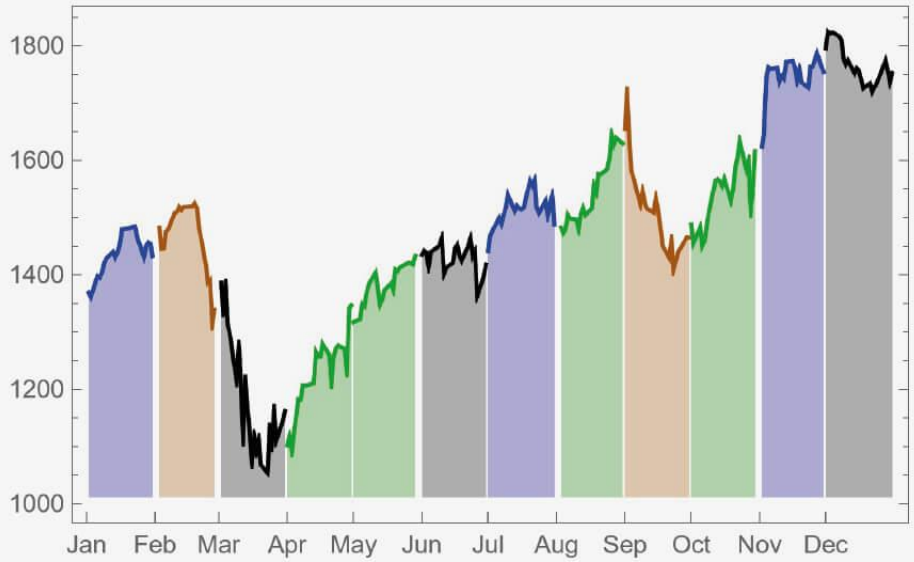
DataExpert

Cluster-analysis example:
clustering time series data

Fig 1. shows the incomes of a market research company from the last year. With regard to daily incomes, we identified similar monthly trends and highlighted them using the same colours in Fig 2.

Fig 1.

Fig 2.



DataExpert

How to identify segments

1

Prepare input variables

Principle Component Analysis

2

Identify groups

Cluster Analysis

3

Validate groups

Discriminant Analysis

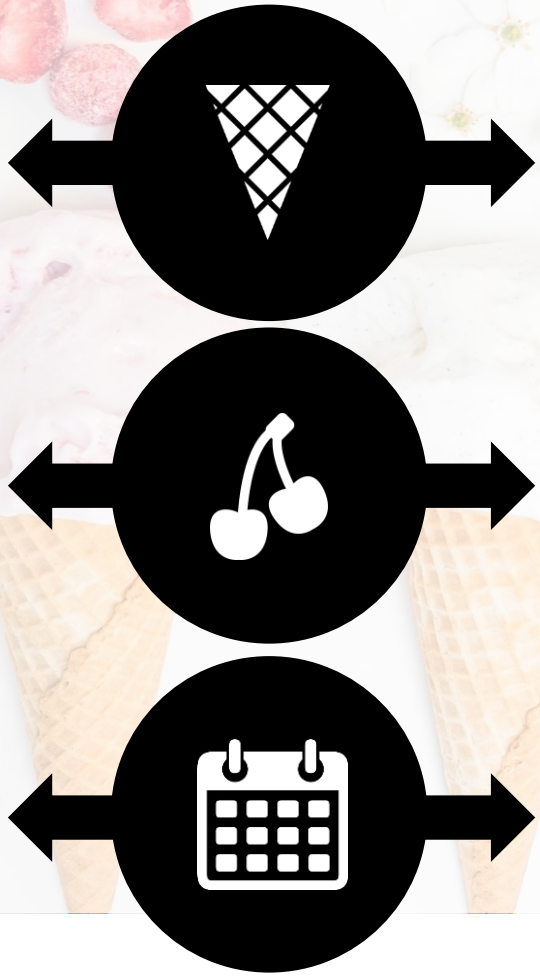
4

Visualize results

Dynamic Dashboard

Example:
Ice cream consumption habits

1 2 3 4 5



I like ice cream cones

I do not like ice cream cones

I mostly like to eat ice cream on its own

I usually eat ice cream with fruit and toppings (sundae)

I like to eat ice cream only in the summer

I like to eat ice cream during the whole year

How to identify segments

1

Prepare input variables

Principle Component Analysis

2

Identify groups

Cluster Analysis

3

Validate groups

Discriminant Analysis

4

Visualize results

Dynamic Dashboard

PRINCIPAL COMPONENT ANALYSIS

	PC1	PC2	PC3
Standard deviation	1.4523	1.4132	**1.3932**
Proportion of Variance	0.2653	0.2512	**0.2441**
Cumulative Proportion	0.2653	0.5165	**0.7607**

How to identify segments

1

Prepare input variables

Principle Component Analysis

2

Identify groups

Cluster Analysis

3

Validate groups

Discriminant Analysis

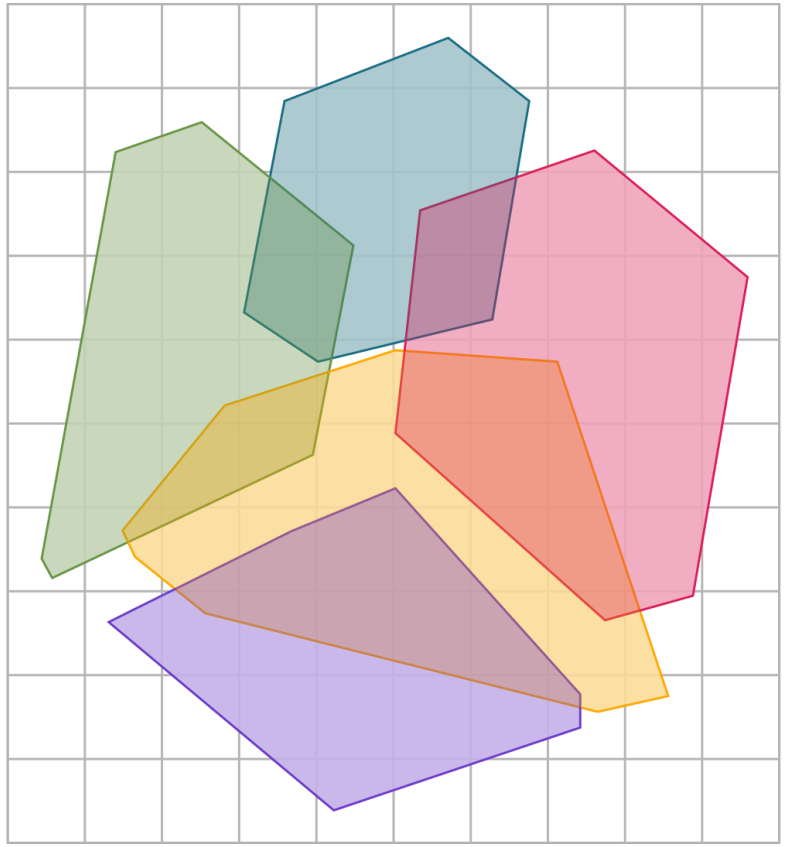
4

Visualize results

Dynamic Dashboard

CLUSTER ANALYSIS

Cluster plot



How to identify segments

1

Prepare input variables

Principle Component Analysis

2

Identify groups

Cluster Analysis

3

Validate groups

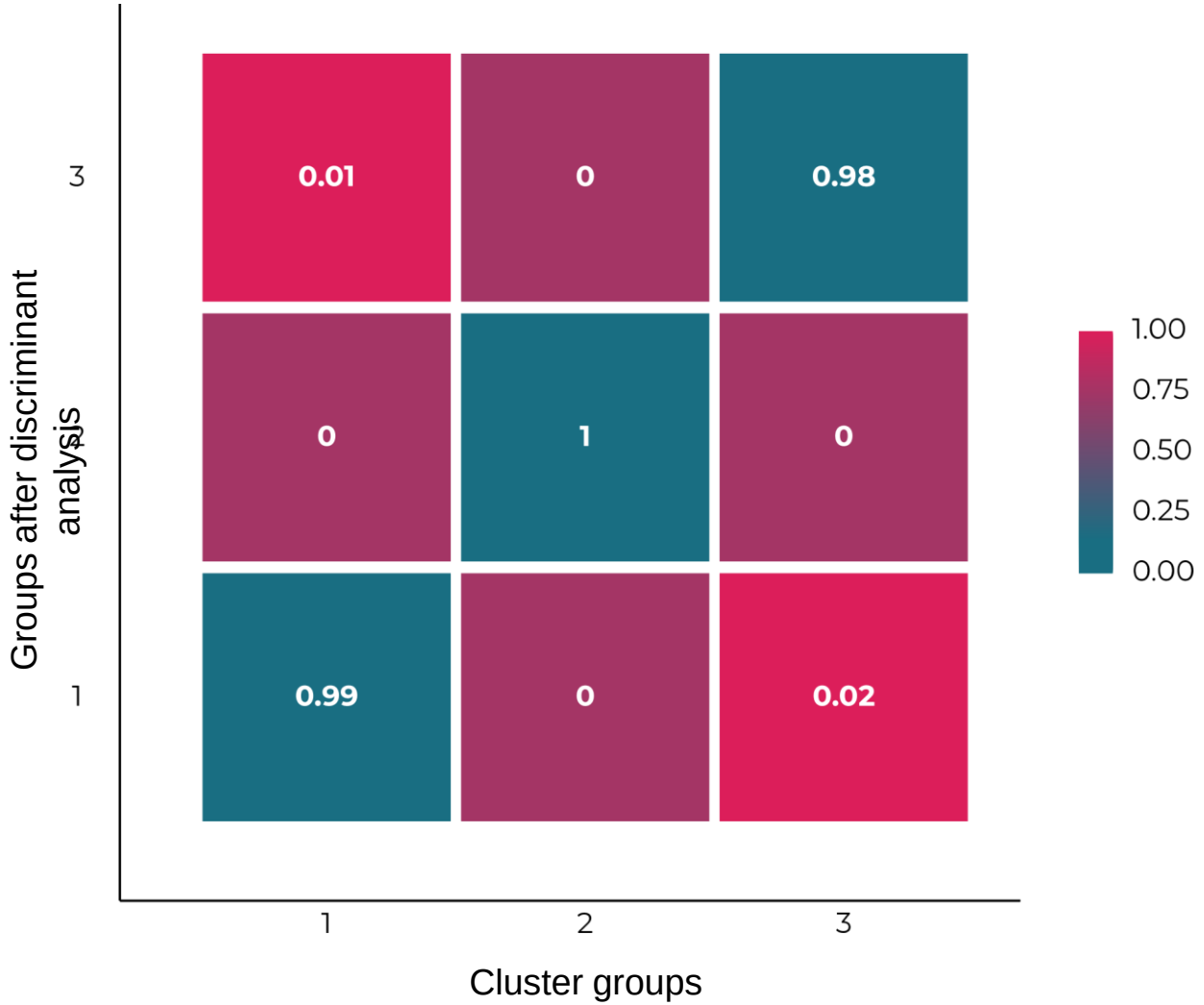
Discriminant Analysis

4

Visualize results

Dynamic Dashboard

DISCRIMINANT ANALYSIS



How to identify segments

1

Prepare input variables

Principle Component Analysis

2

Identify groups

Cluster Analysis

3

Validate groups

Discriminant Analysis

4

Visualize results

Dynamic Dashboard

VISUALIZING THE RESULTS

SUMMARY AND CONCLUSION

- Integrating different approaches and techniques
- Facilitating decision making
- Direct messaging / Effective marketing tactics / Targeted advertisements / Classification
- Potential buyers / Stronger bonds
- Niche markets
- Focused efforts and resources

THANK YOU FOR YOUR ATTENTION

CONTACT US FOR DETAILS


dataexpert.hu


contact@dataexpert.hu


+36 52 212 380


linkedin.com/company/dataexpert-services