MaxDiff Analysis

MaxDiff (aka Best-Worst) Market Research and Data Analysis

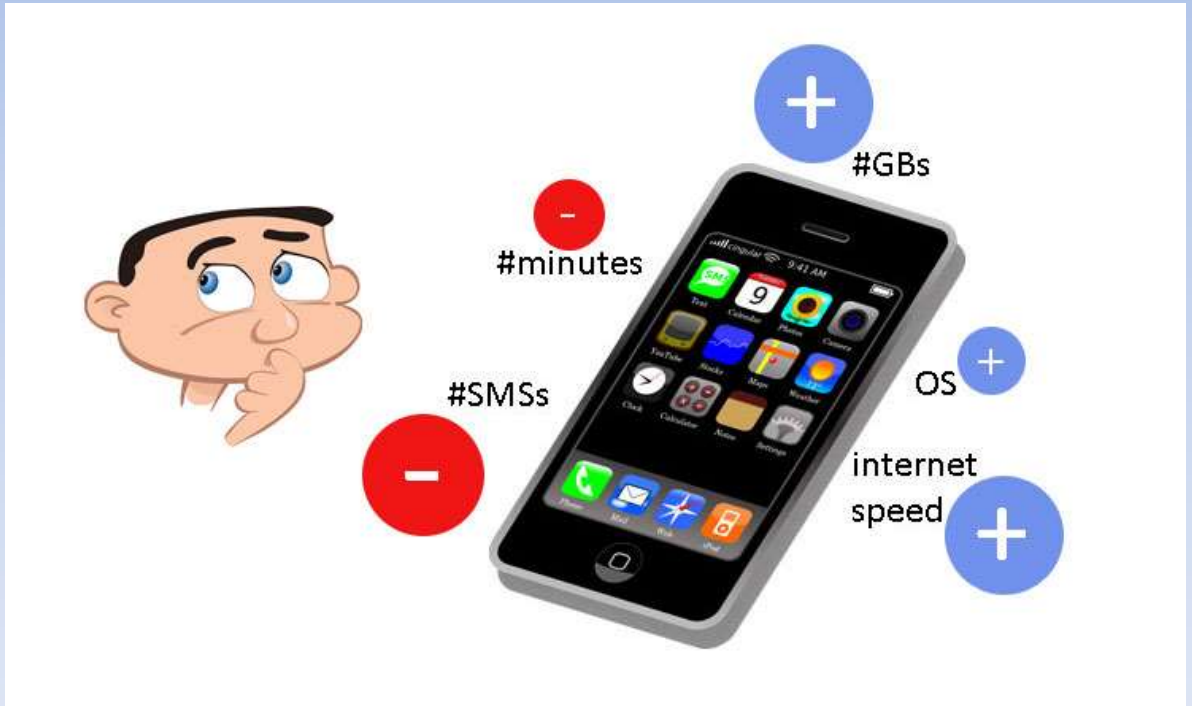
ITMarket

Products and Buying Decisions

INTRODUCTION

People Give Value to Products

- People **compare** and „**weigh**" different aspects of each product and „**calculate**" product's **total value** („utility") for them



People Make Buying Decision

- People will **most probably buy** a product that has the **highest value** (utility) for them

- Buying decision is probabilistic and not **exact** because there are always additional influences not explained by the product attributes and the relations between them

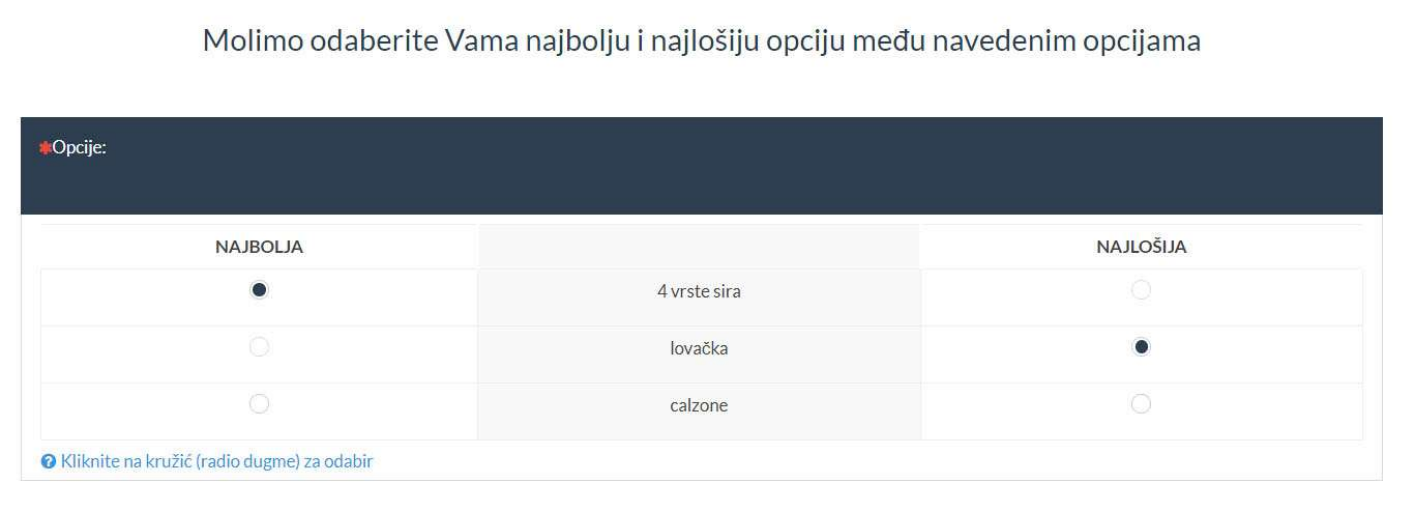
A Short Explanation of the MaxDiff Analysis

MAXDIFF ANALYSIS

ITMarket

MaxDiff Analysis

- Choice-based – respondents choose the best and the worst option between **a few alternatives**

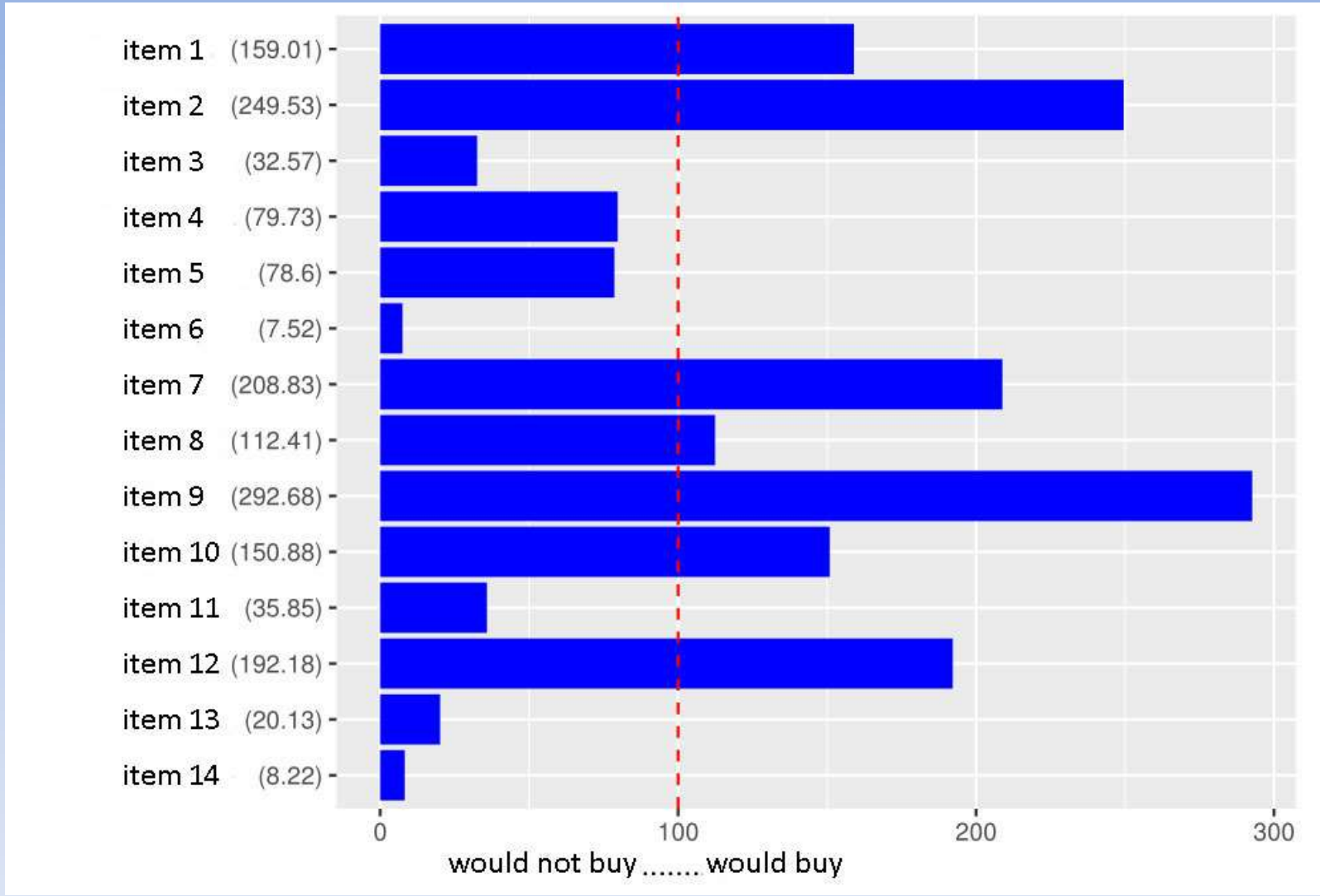


MaxDiff Analysis

- MaxDiff analysis estimates **the values** (utilities) **of the products** from the given choices
- With products' utilities, multinomial logit model gives us the probability that a product will be chosen from a group of products:

$$P(prod_i) = \frac{e^{U_i}}{e^{U_1} + \cdots + e^{U_n}}$$

MaxDiff Analysis



MaxDiff Analysis

- The best product (from a group) is the one with the highest probability of being chosen
- The worst product (from a group) is the one with the least probability of being chosen
- A simpler version of the CBC (Choice Based Conjoint) analysis

Some MaxDiff Usage Examples

Testing different:

- Dishes from a restaurant menu
- Tourist/travel packages
- Cell-phones
- Employees benefits packages
- Mobile subscriptions

to find the most valued product/option

Description of Steps in a MaxDiff Project Implementation

STEPS

ITMarket

Step 1: Problem Definition

- The first step is the problem definition, e.g.:
  - We are **planning a few new products** and we want to see which one would do the best in the market
  - We are interested in how do **people value** our products
  - We are interested in what do our **people like** and what they like less **or dislike**

Step 2: Products Definition

- Definition of the **products** that we wish to analyse, e.g.:
  - Cars: Mercedes, Fiat, Opel
  - Pizzas: vegetarian, spicy, with mushrooms
  - Jeans: slim, regular, skinny fit
  - Mobile subscriptions: flat Internet, limited minutes, discounted international calls

Step 3: Design Definition

- Design definition means building and combining **alternatives (products)** into **questions** and **surveys**
- With respect to (typically) a **large number** of all possible combinations, we choose only a part of them, and this part has to be chosen so that we **can calculate the products values**

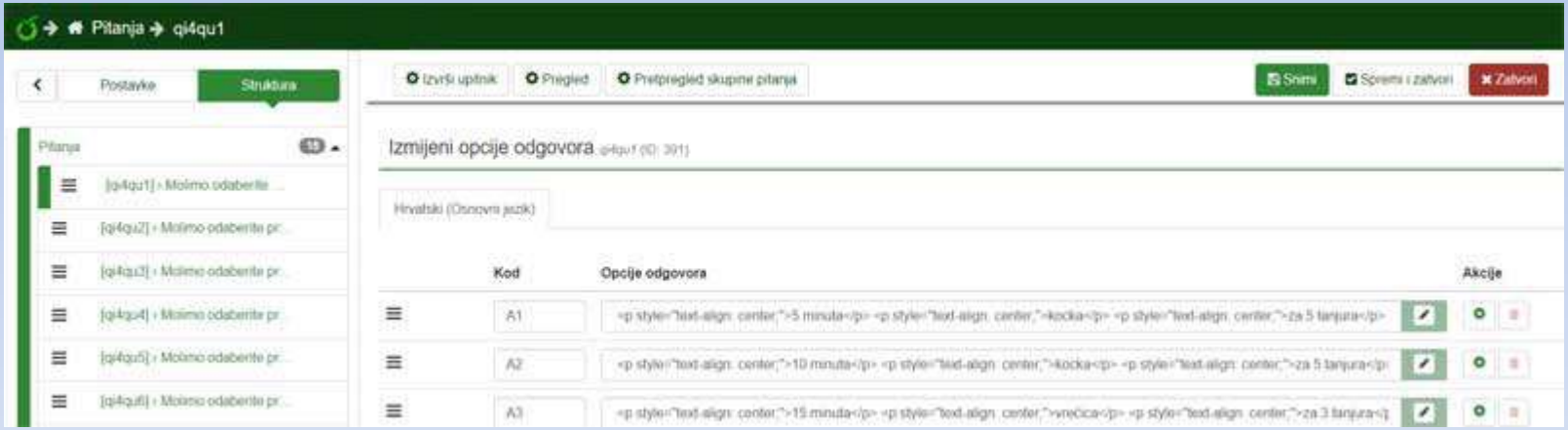
Step 4: Design Testing

- Design has to be tested by **simulating** answers to check if there are any **problems**

resp.id	ques	alt	lokacija	email	best_choice	worst_choice
1	1	s tunom	blizu pizzerije	abc@bc.com	1	0
1	1	calzone	blizu pizzerije	abc@bc.com	0	0
1	1	povrtna	blizu pizzerije	abc@bc.com	0	1
1	2	bolonjez	blizu pizzerije	abc@bc.com	1	0
1	2	lovačka	blizu pizzerije	abc@bc.com	0	1
1	2	4 vrste sira	blizu pizzerije	abc@bc.com	0	0
1	3	lovačka	blizu pizzerije	abc@bc.com	1	0
1	3	losos	blizu pizzerije	abc@bc.com	0	1
1	3	4 godišnja doba	blizu pizzerije	abc@bc.com	0	0
1	4	miješana	blizu pizzerije	abc@bc.com	0	1
1	4	rukola/pršut	blizu pizzerije	abc@bc.com	1	0
1	4	4 godišnja doba	blizu pizzerije	abc@bc.com	0	0
1	5	pikantna	blizu pizzerije	abc@bc.com	0	1
1	5	sa salamom	blizu pizzerije	abc@bc.com	0	0
1	5	bolonjez	blizu pizzerije	abc@bc.com	1	0
1	6	sa salamom	blizu pizzerije	abc@bc.com	1	0
1	6	4 godišnja doba	blizu pizzerije	abc@bc.com	0	1
1	6	calzone	blizu pizzerije	abc@bc.com	0	0
2	1	s tunom	daleko od pizzerije	0001abc@g.com	0	0
2	1	calzone	daleko od pizzerije	0001abc@g.com	0	1
2	1	povrtna	daleko od pizzerije	0001abc@g.com	1	0
2	2	bolonjez	daleko od pizzerije	0001abc@g.com	0	0
2	2	lovačka	daleko od pizzerije	0001abc@g.com	1	0
2	2	4 vrste sira	daleko od pizzerije	0001abc@g.com	0	1
2	3	lovačka	daleko od pizzerije	0001abc@g.com	1	0
2	3	losos	daleko od pizzerije	0001abc@g.com	0	0
2	3	4 godišnja doba	daleko od pizzerije	0001abc@g.com	0	1
2	4	miješana	daleko od pizzerije	0001abc@g.com	0	0

Step 5: Survey Implementation

- The design, which is in a „code” form, has to be **implemented** as a survey in a tool/system for conducting surveys



Step 6: Running the survey

- By using a **users database** (newsletter subscribers, registered users, *online pool – we can offer this too*…), run the survey

pon 14.10.2019 17:25

Administrator <info@anketar.biz>

Pozivnica za sudjelovanje u upitniku

Prima Danijel Kopčinović

Poštovani/a Danijel,

Pozvani ste na sudjelovanje u istraživanju putem upitnika.

Naziv upitnika je:
"Najbolja Podravka juha TEST"

"

U upitniku "Najbolja Podravka juha" postavit ćemo Vam 15 pitanja s raznim varijantama Podravkinih juha, a Vi ćete u svakom pitanju odabrati Vama najprihvatljiviju varijantu. Za ispunjavanje cijelog upitnika po našoj je procjeni dovoljno 15-20 minuta.

Kao znak zahvale za sudjelovanje u ovom upitniku, Podravka će Vam poslati mali poklon paket!

"

Kako bi sudjelovali, kliknite na link ispod.

Lijep pozdrav,

Administrator (info@anketar.biz)

Kliknite ovdje kako bi ste sudjelovali u upitniku:
https://anketar.biz/limesurvey/index.php/185632?token=L5taf01HIbip2p1&lang=hr

Step 7: Checking the Answers

- **Check** the answers and **exclude** from the analysis those that were e.g.:
  - always picking the same alternative (1st, 2nd…)
  - answering too quickly (less than a few seconds per question)
- This is an important step because „ unrealistic” answers can significantly **decrease the model quality**, and sometimes event completely **disable** the model creation

Step 8: Results Analysis

- Using the given answers, calculate the **products values** and with them calculate e.g.
  - **the best** and **the worst** product
  - value **relationships** between the products
  - predicted **sales shares** for some chosen group of products
  - find the best combination of products (**TURF**)
- **Respondents segmentation**

Step 9: Using the Results

- Using the results analysis, make the **business decisions** about new products, changing the existing or planned products, customer segmentation, marketing and sales adaptation…
- With the MaxDiff methodology, business decisions will be aligned with the customers valuations and this will ensure the **customer satisfaction** and **income/profit maximization**

Why Use the MaxDiff Analysis

CONCLUSION

Why Use the MaxDiff Analysis

- Based on a reliably good model of making buying decisions (random utility model, used for more than 40 years in a few variants)
- A very good simulation of the real purchase
- Answers given by the buyers
- Respondents find it easier to choose the best and the worst option instead of rating 5 or 6 (e.g. on Likert scales), thus giving more precise answers

Why Use the MaxDiff Analysis

- More precise answers give better models and estimates of the future behaviour
- Gives relative ratios between the products, not just the overall ranking
- Positions products compared to the key point „buy - not buy”, „want – don’t want”, „like – don’t like”

Contact and Information

Danijel Kopčinović, IT Market

danijel.kopcinovic@itmarket.hr

+385956472127