MaxDiff Analysis

MaxDiff market research and data analysis

ITMarket

Products and buying decisions

INTRODUCTION

How do people buy products?

- People buy products by „**weighing**” each product (*its features*) and „**calculating**” **total benefit** (**utility**) for them
- Car: I prefer cars with *known brands*
- Pizza: I prefer *spicy* pizzas
- Jeans: I prefer *blue regular fit* jeans

Buying decision

- People will **most probably buy** a product that has the **highest benefit** (utility) for them
- Buying decision is not **exact** because there are always additional influences not explained by the attributes defined – that is why the decision is probabilistic, but based on the relations between the attribute values

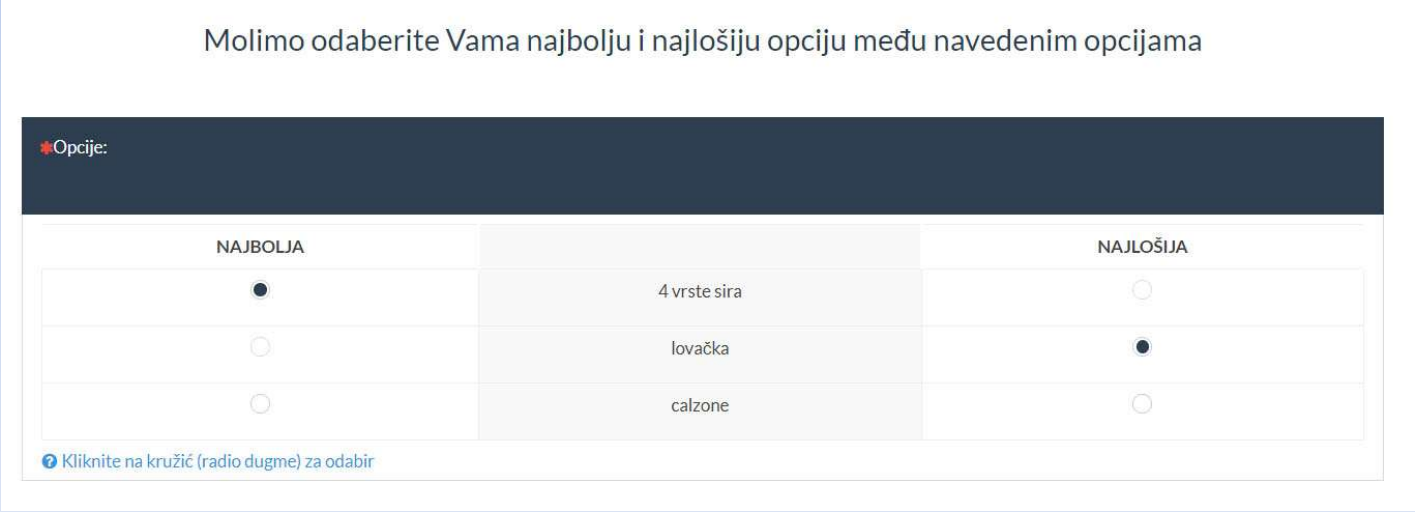
A short explanation of the MaxDiff analysis

MAXDIFF ANALYSIS

ITMarket

MaxDiff analysis

- Choice-based – respondents choose the best and the worst option between **a few alternatives** – a good simulation of **the buying process**



MaxDiff analysis

- MaxDiff analysis estimates **the values (coefficients) of the products** that are used to calculate their utilities
- With products' utilities, multinomial logit model gives us the probability that a product will be chosen as best/worst from a group of products:

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

MaxDiff analysis

- A simpler version of the CBC (Choice Based Conjoint) analysis
- Easier for the respondents because they have **less information** to process (full products are shown, not their specific features)

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 new product** 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 don't like**

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

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 coefficients**

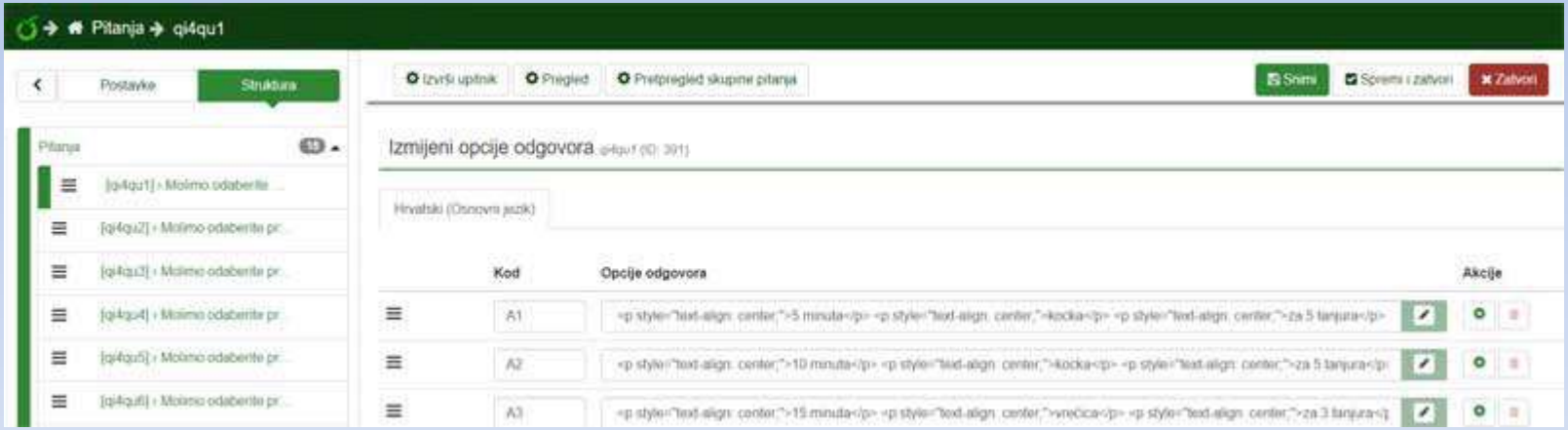
Step 4: design testing

- 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: initiating the survey

- By using a **users database** (newsletter subscribers, registered users, *online pool – we can offer this too*…), initiate 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 „unreal" 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 coefficients** and with them calculate e.g.
  - **the best** and **the worst** product
  - value **ratios** between the products
  - predicted **sales share** for some combinations of interest
  - **the most benefitial combination/offer** of products
- **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

- MaxDiff analysis is based on a reliably good model of making buying decisions (random utility model, used for more than 40 years in a few variants)
- Answers are given by the buyers
- A very good simulation of a real purchase
- Relatively simple to implement
- **Improves business decisions**

Contact and information

Danijel Kopčinović, IT Market

danijel.kopcinovic@itmarket.hr

+385956472127