The Business Case of Smart Surveys

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Smart surveys

Smart surveys have at least one of the following smart features:

- Device intelligence: It can use the intelligence (computing, storage) of the device

- Internal sensors: It can employ the sensors available in the device;

- External sensors: It can communicate with other sensor systems;

- Public online data: It can extract publicly available online data;

- Personal online data: It can go online and request access to existing external personal data;

- Linkage consent: It can ask consent to link external personal data already in possession of the survey institute.

CAWI
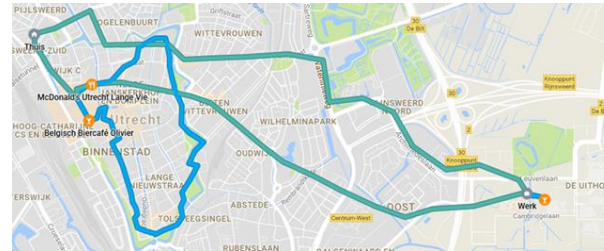CAPI
CATI
PAPI
+
Smart Surveys

3

Why use smart surveys?

Solution for declining response rates (?!)

Better quality data (?!)

Respondent-friendly (?!)

Up-to-date technology (?!)

New data collection mode, new infrastructure

- **IT/technology:** handling of smart features in frontend and backend

- **Methodology:** AI/ML, UI/UX, push-to-smart

- **Organization:** mindset, investment in 'smart survey' channel

- **Legal-ethical:** risk assessments, proportionality and subidiarity decisions, pen tests

- **Logistics:** monitoring, case management, interviewer involvement, human-in-the-loop

Business case

Table 3: Evaluation of the business case of candidate smart features against the four design levels. *Red* stands for very demanding, *orange* for modestly demanding, and *green* for little demanding.

| Feature	What for?	Methods	IT	Legal	Logistics
Geo-tracking	Travel	Red	Red	Orange	Green
Geo-fencing	Time use	Orange	Orange	Green	Green
Device usage	Time use	Orange	Green	Red	Green
Activity list search	Time use	Orange	Green	Green	Orange
Motion	Health	Green	Orange	Green	Green
Receipt scan	Consumption	Orange	Green	Green	Orange
Receipt upload	Consumption	Orange	Orange	Green	Orange
Indoor photo	Living-working	Red	Green	Orange	Green
Energy donation	Living	Green	Green	Green	Green
Physical activity donation	Health	Red	Green	Green	Green
Social media donation	Time use	Red	Orange	Red	Orange
Activity trackers	Health	Orange	Green	Orange	Red
Indoor air quality systems	Living-working	Orange	Green	Orange	Red
Portable air quality	Living-working	Orange	Green	Orange	Red

Robust, modular, future-proof architecture

- Fully integrated within the existing (application) landscape

- Reuse of functionalities for other smart survey applications

- Internal (and external?) services of our organization

Key question

- Large investment

- Structural investment

- No clear case of increased response rates

- No clear case of increased representativity

- Measurement is different (and likely better)

- Golden standard?

Focus on response rates
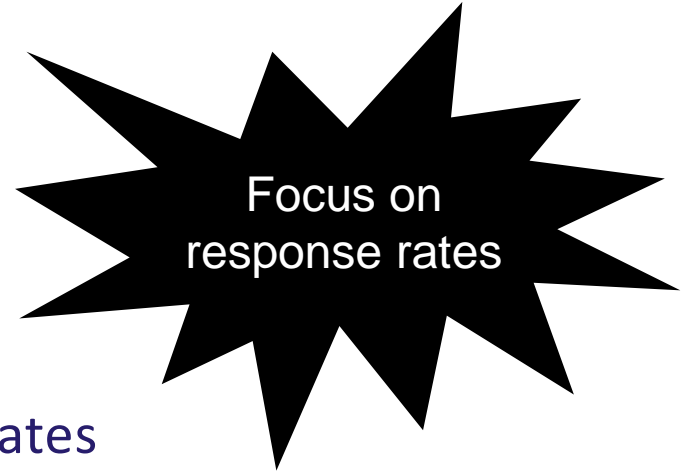
Costs of Smart Surveys

- (In addition to CAWI)

- Agile team (5 developers/testers, 1 software architect, 1 scrum master, 1 product owner, 1 functional manager/information analyst)

- 1 VTE core team, .5 VTE logistical support

- Data science capacity? 1.5 VTE building models and decision rules, still in proof-of-concept phase

- .5 VTE standard methodology recruitment, usability testing

- Pilot testing 100K

- Extra devices (e.g. living conditions, physical activity tracker), 30K
    - Some get lost in the mail

- General surveys about attitude towards smart surveys and privacy, 60K each

Discussion

- Interviewer involvement

- Mix of data

- Technological developments go faster than implementation

Structural financing

- Too much for individual NSI

- Collaboration options:
  - Large consortium
  - Small consortium (as system owner) with licence model
  - Single NSI with license model
  - Commecial party
  - Eurostat