Blaise 5

Data collection Innovation Network

Universiteit Utrecht

The Data collection Innovation Network (WIN) from Statistics Netherlands and Utrecht University

In April 2016, Statistics Netherlands and Utrecht University extended their existing collaboration and established a joint network for data collection innovation (in Dutch 'Waarneem-Innovatie Netwerk', abbreviated to WIN). The network focuses on new and promising ICT technologies in primary data collection, such as mobile devices, social media and web portals. It considers both the design and implementation of new technologies and the consequences for statistics and estimation strategies. For this purpose, both institutions have created lab facilities, made available hardware and software resources like eye-tracking software, and are collaborating closely with Statistics Netherlands' Blaise and IT departments.

In order to prove a positive business case, WIN started relatively modestly. Two researchers constitute the driving force behind WIN activities and research. One is PhD student Jeldrik Bakker, the other an ICT expert in mobile devices, Ole Mussmann. In addition to them, staff at Utrecht University (Marieke Haan, Peter Lugtig and Vera Toepoel) and Statistics Netherlands (Annemieke Luiten, Deirdre Giesen, Fong-Yee Wong, Sjoertje Vos, Vivian Meertens and Barry Schouten) are involved part-time in the various projects.

WIN has started with two main research questions, both connected to mobile devices:
1) how can (existing) surveys be conducted on mobile devices, and specifically, on smartphones?
2) how can mobile device sensor data be combined with survey data? Jeldrik Bakker will focus more on the first topic, Ole Mussmann on the second. These are general questions that can be expanded into more specific ones:

Surveys on mobile devices:
- For which relevant subpopulations is coverage of traditional devices/modes low, and do mobile devices offer increased access?
- For which relevant subpopulations are response propensities of traditional devices/modes relatively low and do mobile devices result in higher propensities?
- What survey invitation strategies are effective for mobile devices?
- What requirements for questionnaire design and lay-out are imposed by mobile devices?
- Should existing surveys be split or randomised into smaller modules, and if so, how?

Combining sensor data with survey data:

- What topics in existing surveys are hard to measure through questionnaires and lead to relatively low data quality, but could be measured through mobile device sensors?
- What is the data quality of mobile device sensor data?
- For what topics and in what context are respondents willing to provide sensor data?

Mobile devices play an important role in WIN activities in the coming years. As a consequence, an elaboration and study of questionnaire design and lay-out, i.e. Blaise style sheets, are the main prerequisites. The need for style sheets for all types of survey items runs in parallel with the development of Blaise 5 updates. For this reason, a close collaboration is anticipated in 2016 and 2017, and WIN will contribute to Blaise user meetings and working groups.

Four small teams have been formed to answer the research questions: one team is working on design and lay-out in collaboration with Blaise and questionnaire developers, another on modular questionnaire design, a third team is looking at using GPS and other location measurements to supplement survey data, and a fourth one is exploring combinations of mobile device sensors.

The network is funded by Statistics Netherlands and Utrecht University and its activities are linked to existing and upcoming designs and redesigns of major surveys. However, once the business case proves positive, the research topics will be advanced and broadened, and the network may participate in (inter)national grant proposals and tenders. In time, the network may be extended nationally to other institutions. Internationally, there is a collaboration with the University of Southampton and the Office of National Statistics that may involve research into new ICT technologies in data collection. Collaboration with other institutions is welcomed.

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