A framework towards understanding mobile survey mode effects

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Starting point

Unintended mobile respondents completing an online course evaluation form: Development over the past five years

In 2017 almost 90% of the respondents of a representative Swiss survey on the use of media were accessing the internet via smartphone and more than 50% were using a tablet to access the internet.

Over the past five years a steadily growing number of SFIVET’s continuing training participants was using a mobile device to complete the organisation’s online course evaluation form.

In 2017 nearly a fifth of SFIVET’s continuing training participants in all parts of Switzerland (Italian, French, and German) were completing the online course evaluation form using a mobile device.

What we already know...

Selection
Respondents using their mobile device for completing a web survey spontaneously tend to be younger and male (Couper, Antionu, & Marsden, 2013).

Design
Scrolling does account for a significant increase in time needed to complete the questionnaire on a mobile device (Couper & Peterson, 2017).

Some of the mobile friendly questionnaire design strategies identified are minimizing scrolling by panning instead (Couper et al., 2017), displaying grid questions in an accordion question format (Böhl), and limiting maximal scale length of answering options to 7 (de Brujin, 2015).

Mobile friendly questionnaire design results in longer completion time, lower drop-out rates and higher satisfaction with survey experience (Conch & Mitchell, 2014).

Data quality
Given the smaller screen size, the touch-based interface, its portability and its easy accessibility and readiness for use, it is surprising that, except for longer completion times (Couper & Peterson, 2017) and higher drop-out rates (Sommer et al., 2015), no or small mixed mobile mode effects on data quality indices are found (Antionu et al., 2017; Toepsel & Luglig, 2015).

The proposed framework

Our study

Around 1000 persons, mostly teachers of VET schools and trainers in host companies around their factories, enroll per semester for SFIVET’s continuing training courses.

As a routine process of the institutions’ quality development and management, three days after the course has finished a personally addressed invitation email with a link to an on line course evaluation questionnaire is sent to all course participants.

With Qualtrics, the institutions online survey software provider, a mobile optimized questionnaire layout was developed.

The theoretical approaches addressing survey mode effects

Total Survey Error Theory (TSE) is statistically controlling for and estimating errors, which occur in the survey data gathering and analysing process in order to find the true parameter value (Bienier et al., 2017).

Cognitive model of response to survey questions

By taking into account the cognitive aspects of survey methodology, three main psychological dimensions are postulated on which modes may differ in evoking motivation and truthfulness in the respondent and therefore are affecting the data obtained: i.e. impersonality, legitimacy and cognitive burden (Tourangeau et al. 2007) adapted by Lynn & Kamińska (2012) and De Brujin (2015).

Reframing the survey taking process as a social situation

Factors of the situation, characteristics of the person as well as attributes of the survey design influence the survey participation behavior. Several psychological theories can explain some of the effects (Keuske, 2015).

Our research interest

Disentangling the (mobile) mode effect

A lot of research on factors influencing survey participation and completion behaviour has already been done and a lot of theories which can explain some of the findings do exist. But, despite this extensive body of knowledge, the integration into a comprehensive theoretical framework is still in a state of draft and the empirical testing of such a framework is practically nonexistent.

In order to discuss mode effects more systematically and to disentangle the actual mode effects from situational and selection effects and from these to draw conclusions on how to interpret and prevent resulting data quality differences, such a framework is needed and put to empirical testing.

Based on Tourangeau et al.’s Cognitive model of response to survey questions (2007) and its adaptations (De Brujin, 2015; Lynn & Kamińska, 2012) and taking into account further factors, characteristics of the person as well as attributes of the survey design which are known to influence the survey completion behaviour (Bienier et al., 2017; Keuske et al., 2015), a framework toward understanding mixed mobile mode effects is proposed (see yellow diagram in the center of the poster).

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References
