Reducing Nonresponse by Optimizing the Time of Email Invitation to an Internet Panel Survey?

Dayana Bossert
University of Mannheim
SFB 884 - German Internet Panel

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1. Introduction

In telephone and face-to-face surveys a decent amount of research has been conducted concerning the ideal time for contacting sample units in order to accomplish an interview. The literature shows, that in general weekday evenings and weekend daytimes are optimal times for contacting people in order to achieve an interview. In contrary, contacting people on weekend morning and Sunday evening result in lower cooperation/participation rates. (D'Arrigo 2009; Lipps 2005; Lipps 2012; Purdon et al. 1999). However, since it is not possible to contact (visit or call) all sample units in the evening and on weekends, further information about the sample unit is required to choose the right time of contact. Groves and Couper (1998) describe that numerous factors influences the ideal contact time, for example household characteristics and at-home patterns of the householder. Thus, today several factors influencing the accessibility of people at their homes are well known. According to those findings, households with children are best contacted on weekday afternoons and evenings. Households without employed persons can be contacted best on weekday mornings or afternoons. Retired persons can be contacted best during the week and not as good at weekends (D'Arrigo 2009; Lipps 2012). Knowledge about the best time for contacting different subgroups enables survey agencies to adapt contact attempts to these "at home patterns" of sample units. This increases the chance of achieving an interview and thus reduces nonresponse.

Although, for online surveys numerous factors have been analyzed regarding their potential to increase response rates (for an overview see: Cook et al. 2000; Fan & Yan 2010; Taurangeau et al. 2013), little is known regarding the issue of time. Nearly nothing is known regarding the time (day of week and time of day) people fill out online questionnaires as well

as regarding the question whether the time of the email invitation has an influence on participation vs. non-participation. Just a view studies focused on these questions – with mixed results (Faught et al. 2004; Shinn et al. 2007; Sinibaldi & Hansen 2008; Trouteaud 2004). Based on those studies, the question whether the time of invitation to online surveys matters cannot be answered satisfactorily. If it does adapting the transmission time of email invitations might be an easy method for achieving higher response rates in online surveys. Especially for panel studies this technique might be promising. After the first few panel waves, enough information regarding individual characteristics of the panel members will be available for adapted emailing.

2. Research Question & Data

The analyses presented in this paper are the very first steps to investigate whether adapting the time of email invitation to an online survey might be a useful method for achieving higher response rates. Before conducting an experiment to test the effect of adapted invitation emails, some background information regarding the time people fill out the online questionnaire is required. This paper provides first insight into:

- which day of invitation leads to the highest response rate
- which day of the week shows the highest response rate
- whether individual characteristics of sample members have an impact on the time of participation

The analyses are based on data from the German Internet Panel (GIP) – a probability based longitudinal online survey of the German population. The sample frame consists of German speaking individuals, living in private households, aged 16-75 years. In the GIP bi-monthly online questionnaires are conducted. To announce the questionnaires email invitations are sent on the first day of every second month. Based on this procedure, by now, email invitations are sent at 5 different days of the week (Monday, Tuesday, Wednesday, Thursday, Friday). Additionally three email reminders per wave are sent. The first two reminders are sent on the second and third Friday of the particular month, the third one on the following Tuesday.

The analyses are based on paradata (date and time of participation) as well as on socio-demographic variables from the second to sixth wave of the GIP. The data of these five waves are pooled for the following analyses. All analyses are restricted to the first week of field work. That restriction is based on the fact that the transmission of reminders on Fridays and Tuesdays distorts the distribution of participation.

3. Results

First analyses show that sending out the email invitation on Monday leads to the highest proportion of the total response rate after the first week of field work (see Figure 1.).

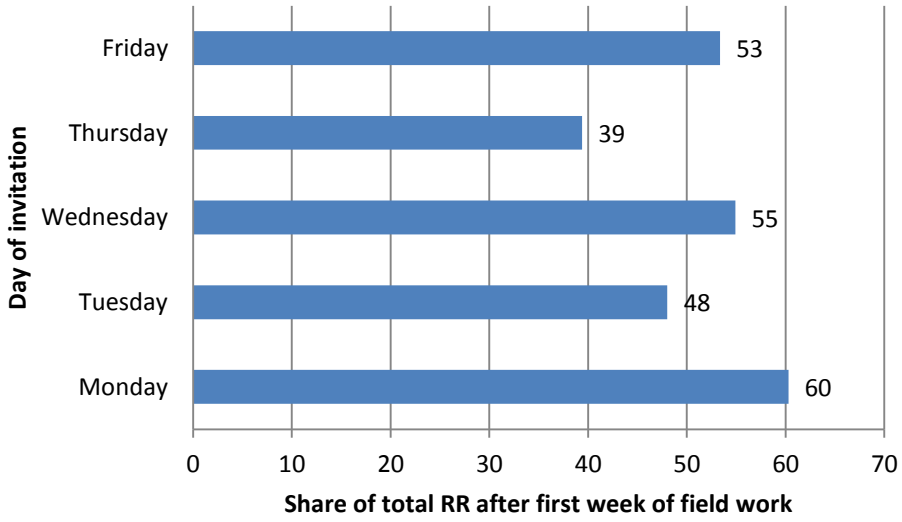

Figure 1: Share of total response rate after one week of field work by day of invitation

Figure 2 shows the share of participation by day of week. By interpreting this distribution one must take into account that not on all days an email invitation was sent. The days no invitation was sent are Saturday and Sunday. By comparing the five weekdays, Thursday shows the lowest participation rate. Although there was no invitation on Sunday, participation on this day is highest.

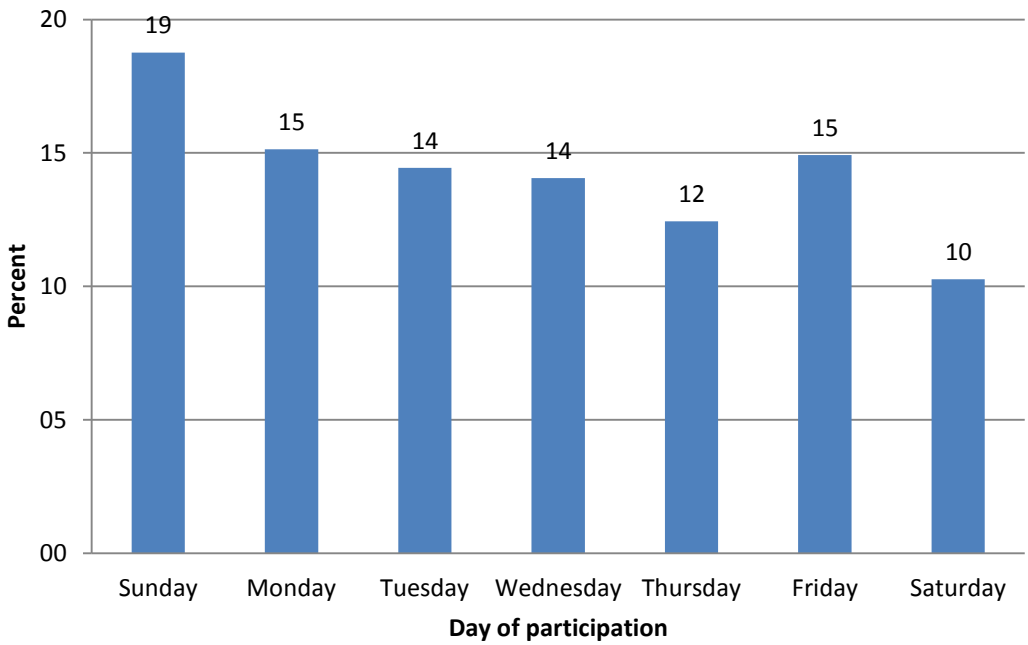

Figure 2: Share of participation by day of the week for the first week of work period.

The question that is of particular interest is whether individual characteristics influence the day someone participates in the online survey.

First results of logistic regression models (separated for every day of the week) indicate that there is no stable effect of tested variables. The results indicate that:

- Participation on Monday is more likely for people with medium income as compared to low income.
- Participation on Tuesday is less likely for people working full time as for people without a job
- Participation on Friday is more likely for persons living in a single household compared to those living together with other persons.
- Participation on Sunday becomes more likely the older the participant is.

4. Discussion

1. What might be relevant variables that determine the time (day of week as well as time of day) someone answers an online questionnaire?

2. What do you think about adapting the time of email invitation to the answering pattern of different subgroups?

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