The SOM Institute's Notes on Survey Methodology – 2026:1

Same, same, but different – Evaluating digital mailbox reminders (not email) in surveys

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ABSTRACT

Declining availability of phone numbers has made it increasingly difficult to reach potential survey respondents, especially for hard-to-reach groups such as young people and foreign born. However, digital mailboxes have become an alternative method for delivering survey reminders in Sweden. The present study evaluated the effect of digital mailbox reminders on response rate and data quality. The results indicated that the digital mailbox reminders had a positive effect on the response rate but were also associated with a higher number of breakoffs and partials. Future studies should therefore assess how to not only reach potential respondents but also make them complete the questionnaire. Nevertheless, digital mailbox reminders can be considered a good complement to reach more potential respondents in various societal groups.

Reviewed by Ph.D Anders Carlander

INTRODUCTION

As a complement to sending questionnaires by physical mail, text messages have been used as a cost-effective way to remind sample persons about questionnaires (Andersson and Bergquist, 2025). However, over the last couple of years it has become more difficult to identify phone numbers for individuals in Sweden, making it challenging to remind sample persons to complete the questionnaire. In the national SOM survey 2023, phone numbers could only be identified for 54 percent of the sample. Furthermore, phone numbers tend to be harder to obtain for young people and people born outside the Nordics, two groups who are already hard to convince to participate in survey studies (Bergquist and Andersson, 2024).

Recently, digital mailboxes have been implemented in Sweden allowing users to receive official mail, for instance from public authorities, digitally. The digital mailbox functions like a traditional mailbox, but online. Users can get notifications about a new digital message via email, but the messages can only be accessed after logging in with electronic identification connected to the user's social security number, making it a safe and convenient way to receive important mail (DIGG, 2024a). Currently, three main providers offer digital mailbox services: Kivra, Billo and Min myndighetspost. According to the Agency of Digital Government (DIGG, 2024b), more than 6 million Swedes used a digital mailbox in 2023, making it a suitable channel for sending survey reminders and reaching more potential respondents.

This study assessed the effect that reminding potential respondents by digital mailboxes, as a complement to text messages and physical mailed reminders, have on response rate and data quality.

HYPOTHESES

RESPONSE RATE

Phone numbers have become harder to obtain, making it more difficult to contact potential survey respondents. However, digital mailboxes could become a complement to traditional contact methods, which may lead to more potential respondents being reached by reminders and answering the survey. Expanding the range of contact methods could therefore result in a higher response rate.

H1. Sample persons who are reminded about the questionnaire by digital mailbox, as a complement to text messages and physical mail, may be more likely to complete the questionnaire than sample persons who are only reminded through text messages and physical mail.

DATA QUALITY

Since digital mailbox is considered a safe way of receiving mail from authorities, digital mailbox reminders may make sample persons more likely to take the survey request seriously and answer the questions more thoroughly and conscientiously. If so, sample persons may produce better data quality when reminders are sent via digital mailbox than when the reminders are just sent by physical mail and text messages.

H2. Sample persons who are sent reminders about the questionnaire via physical mail, text

messages, and digital mailbox may produce better data quality than sample persons who are only reminded by physical mail and text messages.

METHODS AND MATERIALS

PREREGISTRATION

The hypotheses, procedure, exclusion criteria, and analysis plan were preregistered prior to data collection was completed and prior to analyses. The preregistration can be found at https://osf.io/35fks.

SAMPLE

A sample of 26,250 randomly selected individuals registered by the Swedish Tax Agency was drawn on August 13, 2024. Only individuals who were 16 years or older were invited to complete the questionnaire. The questionnaire was administrated by the SOM Institute at the University of Gothenburg.

PROCEDURE

The experiment was implemented in a self-administered mixed-mode survey (paper-and-pencil and web questionnaire). Prior to being invited to answer the questionnaire, all sample persons were randomly assigned to one of two groups using random numbers extracted from random.org. One group was sent reminders via physical mail, two text messages and two messages to their digital mailbox (treatment group), while the other group was only sent reminders via physical mail and four reminders by text message (control group). See Table 1 for detailed information about all reminders sent during the field period.

Table 1. *Field Period.*

Day	**Treatment group** (*n* = 13,155)	**Control group** (*n* =13,095)
	Pre-notification postcard	Pre-notification postcard
0	Survey invitation	Survey invitation
9	Postcard reminder	Postcard reminder
28	Survey reminder	Survey reminder
31	**Digital mailbox reminder**	Text message reminder
45	Survey reminder	Survey reminder
51	Text message reminder	Text message reminder
64	Survey reminder	Survey reminder
66	**Digital mailbox reminder**	Text message reminder
77	Survey reminder	Survey reminder
80	Text message reminder	Text message reminder

The text message reminders included a link to the online questionnaire and login details, whereas the digital mailbox reminders included a direct link to the survey.[1]

The data collection was considered completed in early January 2025, about four months after the first invitation was sent.

ANALYSIS PLAN

RESPONSE RATE

To compare response rates, Response Rate 1 (RR1) was estimated according to the guidelines of the American Association for Public Opinion Research (AAPOR, 2023).

[1] Previous studies have shown that text message links to surveys with login information generate higher response rates than text message links without login information. However, for legal reasons, it is not possible to send login information via digital mailbox to sample persons. Instead, this group received individual links without login.

Only those who answered 80 percent or more of the eligible questions were accordingly considered a response. The parameters of a logistic regression estimated the difference in RR1 between the treatment group and the control group. To isolate the effect of the digital mailbox reminder, all respondents who participated in the survey before the first digital mailbox message was sent (field day 31), and participants who did not have a registered digital mailbox were excluded from the analysis.

DATA QUALITY

All respondents do not answer at least 80 percent of the questions (RR1). Some people tend to start the questionnaire but drop out before completing it. Therefore, it is also important to extend the analysis and include those respondents who start the questionnaire but do not complete it, as this can offer more information about the data quality.

Data quality was estimated by analyzing the proportion of breakoffs, partials and completes. Those who started to answer the questionnaire and answered fewer than 50 percent of the questions were defined as breakoffs, those who answered more than 50 percent but fewer than 80 percent of the questions were defined as partials whereas completes answered 80 percent or more of the questions.

To examine H2, an ordered logistic regression model was used to assess the distribution of breakoffs, partials and completes as a function of the digital mailbox reminder. As in the previous analysis, all respondents who participated in the survey before the first digital mailbox message was sent (field day 31) and those who did not have a registered digital mailbox were excluded from the analysis.

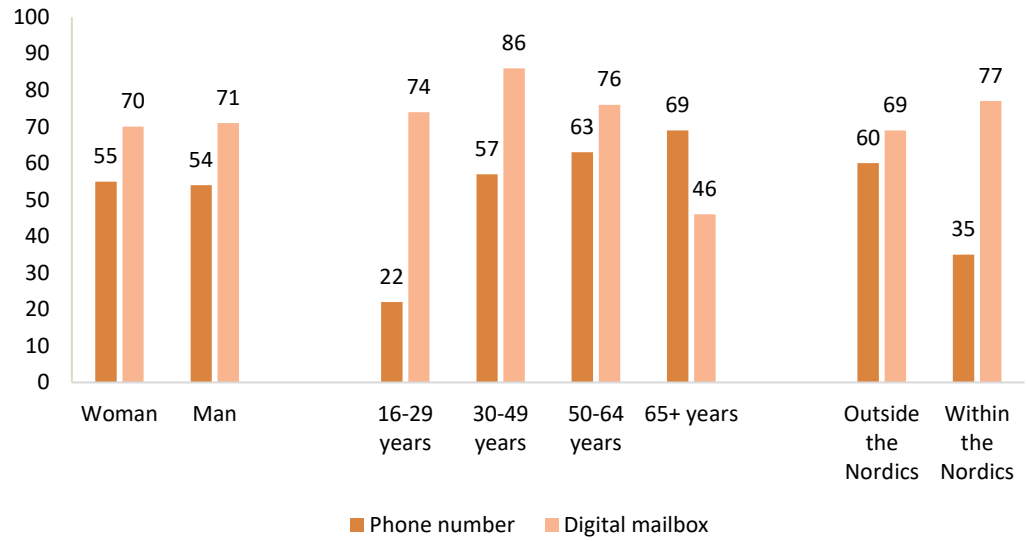
RESULTS

DESCRIPTIVE ANALYSIS

Prior to field start, telephone numbers and possession of digital mailbox were identified for all sample persons, regardless of experimental group. Phone numbers could be identified for 55 percent of the sample, whilst 71 percent of the sample persons had a registered digital mailbox. 14 percent of the sample had neither an identified phone number nor a registered digital mailbox.

As seen in Figure 1, there was a similar distribution between men and women concerning identified phone numbers and registered digital mailboxes. Regarding the age groups, it was harder to obtain phone numbers for younger people (16-29 years) than for older people (65+ years). Meanwhile, the share of registered digital mailboxes was higher in the youngest age group than in the oldest group. The combination of phone numbers and digital mailboxes thus make a good coverage of contact methods for all ages. Lastly, Figure 1 shows that phone numbers could only be identified for 35 percent of people born outside the Nordic countries. However, 77 percent in that group had a registered digital mailbox.

Figure 1. *Phone numbers and Digital mailboxes identified.*

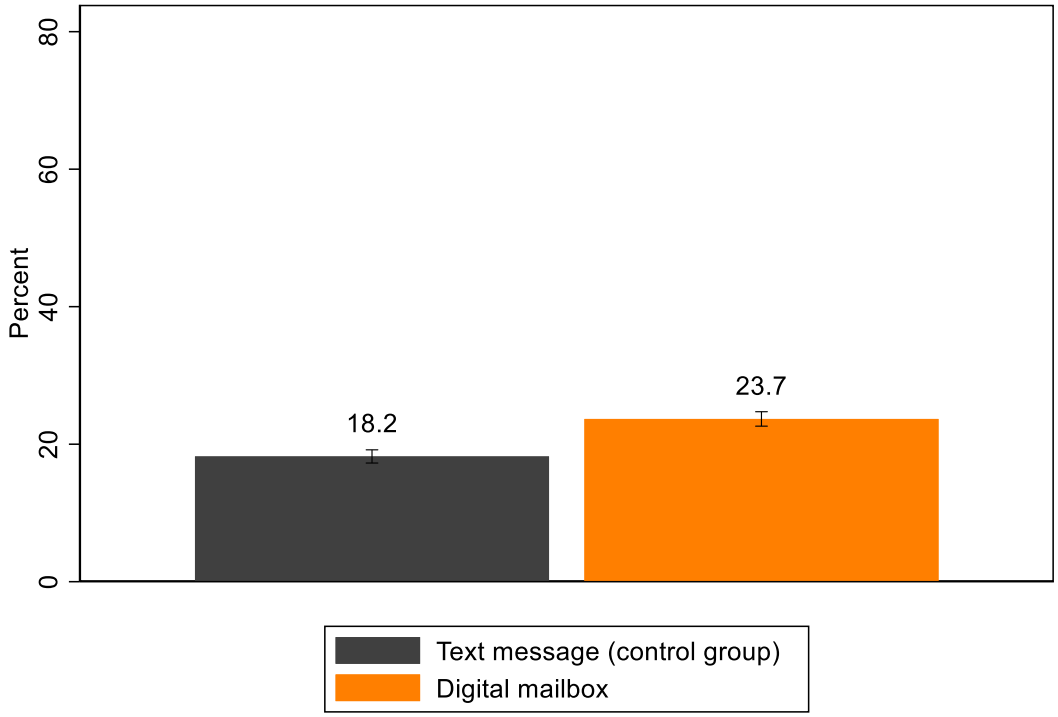


RESPONSE RATE

To isolate the effect of the digital mailbox reminder on response rate, all respondents who participated in the survey before the first digital mailbox message was sent (field day 31), and sample persons who did not have a registered digital mailbox were excluded from the analysis. Approximately 40 percent had already answered the questionnaire before the first digital mailbox reminder was sent.

As shown in Figure 2, the response rate was higher among those who were sent additional digital mailbox reminders (23.7 percent) than among those who were reminded only via physical mail and text messages (18.7 percent). The difference was statistically significant ($OR = 1.39$, $SE = 0.06$ $p < .001$) and remained significant under control for sex, age and birth region ($OR = 1.41$, $SE = 0.06$, $p < .001$).

Figure 2. *Response rate (RR1)*



Note. Respondents who participated in the survey before the first digital mailbox message was sent (field day 31) and those who did not have a registered digital mailbox were excluded from the analysis, n = 12 486.

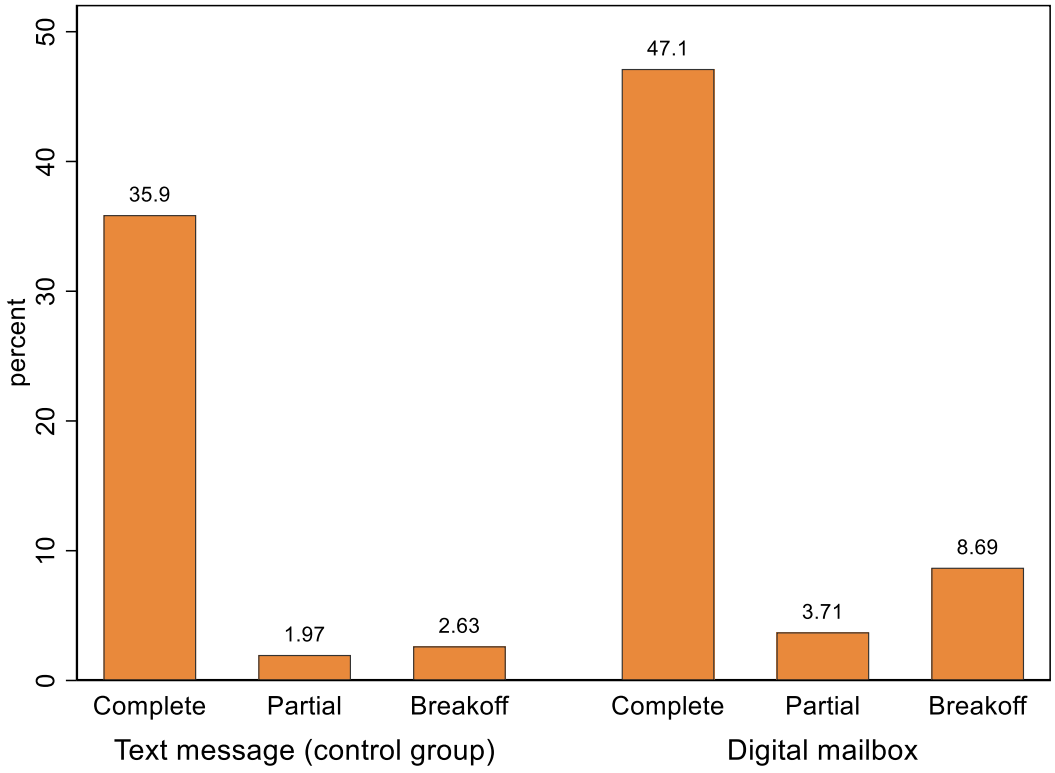
DATA QUALITY

The results considering hypothesis 1 have already shown that the share of completed answers (i.e., more than 80% of the questions) was higher in the treatment group than in the control group. However, it is equally important to extend the analysis and include those respondents who started answering but did not complete at least 80 percent of the questions in order to assess if there are any differences in data quality between the two groups.

Figure 3 shows the proportion of completes, partials and breakoffs for the treatment group and the control group. Respondents who answered at least one question after the first digital mailbox reminder was sent and who had a registered digital mailbox were included

in the analysis. As mentioned before, the proportion of completed answers was higher in the treatment group than in the control group, but that also seemed to apply for partials and breakoffs.

Figure 3. ***Proportion of completes, partials and breakoffs (percent).***



Note. **Respondents who participated in the survey before the first digital mailbox message was sent (field day 31) and those who did not have a registered digital mailbox were excluded from the analysis. The figure does not show those who did not answer any questions at all, n = 3 153.**

As indicated in Figure 3 the result of the ordered logistic regression also showed that digital mailbox reminders had significant effect on the share of breakoffs and partials ($OR = 2.09$, $SE = 0.22$, $p < .001$). Thus, digital mailbox reminders increased the probability of breakoffs as well as partials. The effect did not change under control for sex, age and birth region ($OR = 2.09$, $SE = 0.22$, $p < .001$). For full results, see Table 2.

Table 2. *Data quality (Ordered logistic regression).*

	Model 1		Model 2	
	Odds ratio	**Standard error**	**Odds ratio**	**Standard error**
Digital mailbox	2.09***	0.22	2.09***	0.22
Sex (ref. woman)				
Man			0.81*	0.08
Age (ref. 16-29)				
30-49 years			0.66**	0.09
50-64 years			0.54***	0.08
65+ years			0.58**	0.10
Birth region (ref. born within the Nordic countries)				
Born outside the Nordic countries			3.55***	0.37
Pseudo R^2	0.0149		0.0623	
n	3 153		3 136	

Note. **Respondents who participated in the survey before the first digital mailbox message was sent (field day 31) and as those who did not have a registered digital mailbox were excluded from the analysis. * p < .05, ** p < .01, *** p < .001.**

Even though the digital mailbox reminders resulted in a higher response rate regarding completed answers, there was also a higher probability for incomplete answers. Thus, the data quality was considered lower in the treatment group than in the control group.

As seen in Table 2, Model 2 had greater explanatory power than Model 1. Even though the effect of digital mailbox reminders on the distribution of breakoffs and partials remained unchanged after controlling for background variables, the results also highlight the strong effect of birth region. Being born outside the Nordic countries showed the largest effect on breakoffs and partials.

CONCLUSION

Over the last couple of years, it has become harder to find phone numbers for potential respondents, especially for hard-to-reach groups such as young people and foreign born. However, digital mailboxes have become an alternative to contact potential respondents and remind them about a questionnaire. Looking at the descriptive analysis, the share of registered digital mailboxes are higher within all groups except for people over the age of 65 where the share of listed phone numbers is still rather high. Digital mailboxes therefore offer a potential way to contact otherwise hard to reach groups such as young people and people born outside the Nordic countries.

The purpose of the experiment was to assess the effect digital mailbox reminders have on response rate and data quality. In accordance with the first hypothesis, the digital mailbox reminder had a positive effect on the response rate. This study estimated the effect of adding the digital mailbox reminders as a complement to physical mail and text messages rather than the effect of completely switching from text messages or physical mail to digital mailbox reminders. One possible explanation for the higher response rate in the treatment group could thus be that more sample persons were reached by using several different means of contact, rather than the digital mailbox reminder itself causing a higher response rate. Future studies could examine whether the effect would be the same if digital mailbox replaced other means of contact completely.

The second hypothesis assumed that the digital mailbox reminder would be considered more serious than, for example, a text message, making the respondents answer the questions more thoroughly and conscientiously. In contrast to the hypothesis, the share of

breakoffs and partials were higher for those who were sent the digital mailbox reminder. It could be the case that digital mailbox reminders push people to answer the questionnaire on their mobile phones, which could lead to people dropping out before completing the questionnaire. It could also be the case that the digital mailbox reminders attract more respondents in total, including completes as well as breakoffs and partials.

In sum, digital mailbox reminders seem to lead to higher response rates, both in completed answers as well as responses with less data quality (breakoffs and partials). Future studies should therefore assess how to not only reach potential respondents but also make them complete the questionnaire. Digital mailboxes are still a relatively new phenomenon in Sweden and is so far mainly used by authorities, thus received messages might be considered more seriously than for example text messages. If digital mailboxes become more frequently used by, for example, market research companies, this perception could change and make it less effectful on response rate. Currently, it could however be considered a good complement in order to reach more potential respondents in various societal groups.

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Reviewed by Ph.D Anders Carlander

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