

Experiences with Blaise 5 CATI and multimode at Statistics Norway

Jan Haslund and Trond Båshus, Statistics Norway

1 Introduction

Statistics Norway is the national statistical institute of Norway and the main producer of official statistics. We are responsible for collecting, producing and communicating statistics related to the economy, population and society at national, regional and local levels. Statistics Norway has collected data for social surveys for over 50 years. We started using Blaise in social surveys in 1991, and are currently working on a transition from using a mixture of Blaise 4.8 and Blaise 5 to Blaise 5 only.

2 Current situation

Statistics Norway is using Blaise 4.8 for CATI (online) and CAPI (offline), and has used Blaise 5 since 2014 for CAWI. While Blaise 4.8 is tightly integrated with our case management system (SIV), there is only a very basic integration with Blaise 5. The system allows for simultaneous data collection on CATI and CAWI. If a respondent starts a questionnaire in CAWI-mode (Blaise 5), the corresponding case will be excluded from daybatch in Blaise 4.8. This is handled by SIV. While this provides us with a very flexible framework to conduct multi-mode surveys, it is very labour intensive. The surveys must be prepared twice and data is stored in two separate databases. Mature support for CATI in Blaise 5 will make it possible for us to save time and reduce costs. A more sophisticated synchronisation of events and data between SIV and Blaise 5 will have to be developed before we can fully replace Blaise 4.8.

3 Transition to CATI in Blaise 5.x

3.1 Why

While Blaise 4.8 works very well for CATI and CAPI, it hasn't been particularly usable for CAWI for quite some time, especially when we consider the small screens of mobile devices. We decided to switch to Blaise 5 for CAWI as soon as we perceived Blaise 5 was mature enough for this purpose. Having all modes in Blaise 5 will make it less time consuming to create and maintain multimode surveys, and will obviously make the data processing simpler. We judged that CATI functionally to be complete enough during the spring 2018.

3.2 How

To implement Blaise 5 for all modes, we decided to use real surveys: Governing and Experiencing Citizenship in Multicultural Scandinavia (GOVCIT) and a pilot survey for the Labour Force Survey (LFS). The LFS pilot was to see if we could use CAWI in the Labour Force Survey for some or all the respondents, from the second to eight waves. The framework for CATI, such as the appointment and dial questionnaires, were based on the CATI sample provided with Blaise.

3.3 GOVCIT

The first survey out was GOVCIT. The survey has a sample of almost 8000 people aged 20-36 years. 3000 have immigrated after the age of 16 years. 3600 have immigrated before the age of 11, or were born in Norway with parents who have immigrated. The rest is the control group where most people are born in Norway. The questionnaire is in seven languages (Norwegian, Somali, Arabic, Polish, Turkish, English and Urdu). The questionnaire has quite simple routing and took about 15 minutes for the respondent to complete. It has a few mode specific questions (different text for CAWI and CATI). We made a specific layout for smartphones and one for laptops and tablets see illustrations below. The surveys mode design was to first conduct CAWI for two weeks and then have a follow up on CATI and CAWI. Since we knew that most of the respondents would complete the survey on CAWI, it was less risky to follow up on CATI

in case something technical went wrong. At the time of follow up on CATI, 2265 respondents had answered on CAWI. CATI and CAWI follow up resulted in 1065 additional completed questionnaires. Some of these respondents had already started the web questionnaire, but not completed it. SMS and email reminders were sent to the respondents at the same time as the interviewers would call them, and gave them a choice to either wait for the interviewer to call them or to do it themselves on web. We also made a button in the CATI-questionnaire which the interviewer could use to send an e-mail to the respondent with a link to the CAWI questionnaire including username and password.

3.3.1 What went wrong on CATI?

The first issue we experienced was that the select field include/exclude functionality did not work properly for string fields. This was reported to the Blaise developers, but it couldn't be fixed in time for the survey. We decided to mark all cases we wanted to exclude from the daybatch as completed instead.

The first two weeks with only web questionnaire everything worked fine. The exciting part started when we started CATI. We have our production data in a MySQL database. We have tested on our laptops with data in a .dbx file. And it seems to work as expected. When the interviewers started to call and interview, we soon experienced that there was a major problem with the survey. The dial questionnaire came up and the interviewers phoned, but when they tried to start the questionnaire they just came to the dial menu for the next respondent. This was not for all respondents, but approximately 80 to 90 per cent. We had to stop the CATI interviewing and find out what to do.

3.3.2 Emergency solutions

To salvage to the rest of the data collection period, it was decided to use Blaise 4.8 for the CATI part of the follow up. The new CATI-questionnaire was very simple with only a couple of questions and contained a link to the web questionnaire including the respondents' username and password, The interviewer could cut and paste the link to the browser and reach the GOVCIT CAWI questionnaire . The interviewer completed the interview in Blaise 5 in a browser and at the end switched back again to Blaise 4.8 to answer a question if it was a new questionnaire, an already started questionnaire or an appointment. Every morning we ran some Manipula programs to synchronize new CAWI interviews to the CATI questionnaire in Blaise 4.8 so that we could exclude them from the daybatch.

Doing it this way was additional work, but questionnaire data were stored in one single database and the interviewers could use Blaise 5 and see how it worked, although they didn't use the CATI layout or use the t CATI specific layout. Even though this first attempt at CATI interviewing in Blaise 5 was a failure, we gained valuable experience in creating a multimode survey in Blaise, including setting up mode specific questions and layout, setting up the CATI specification and learning about the CATI dashboard. We also learned how the new dial and appointment questionnaires worked, which is a major change compared to Blaise 4.8.

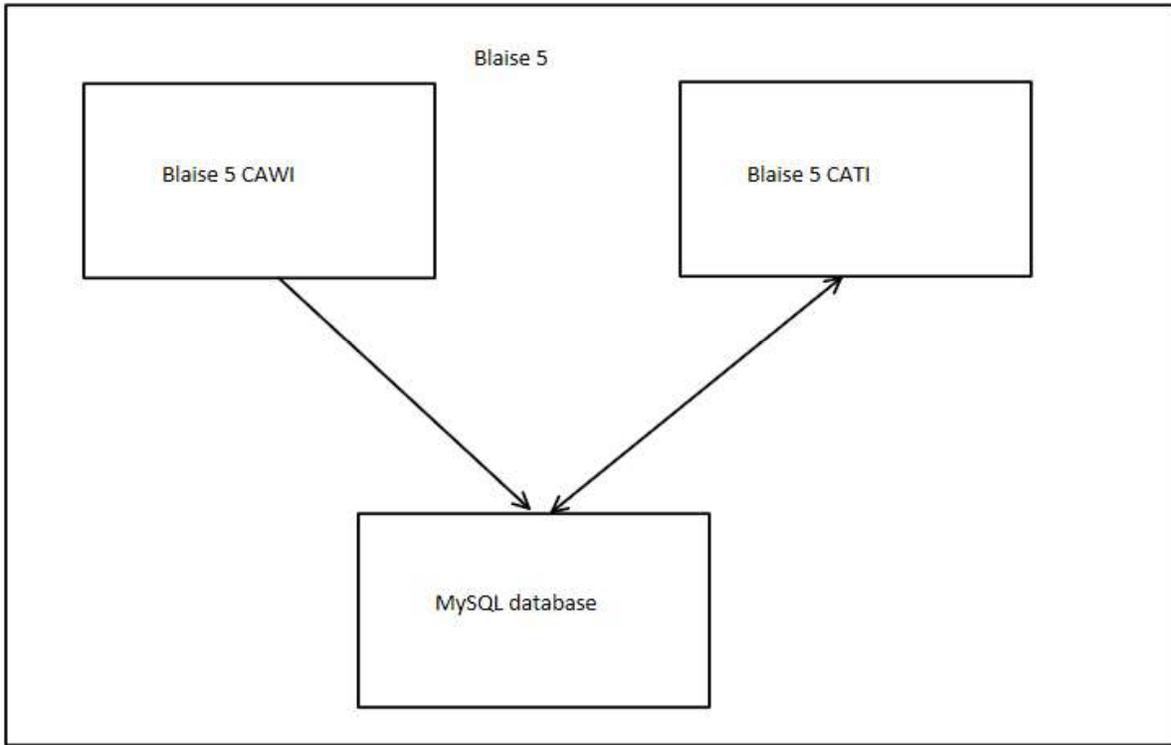


Figure 1 Masterplan for GOVCIT SIV??

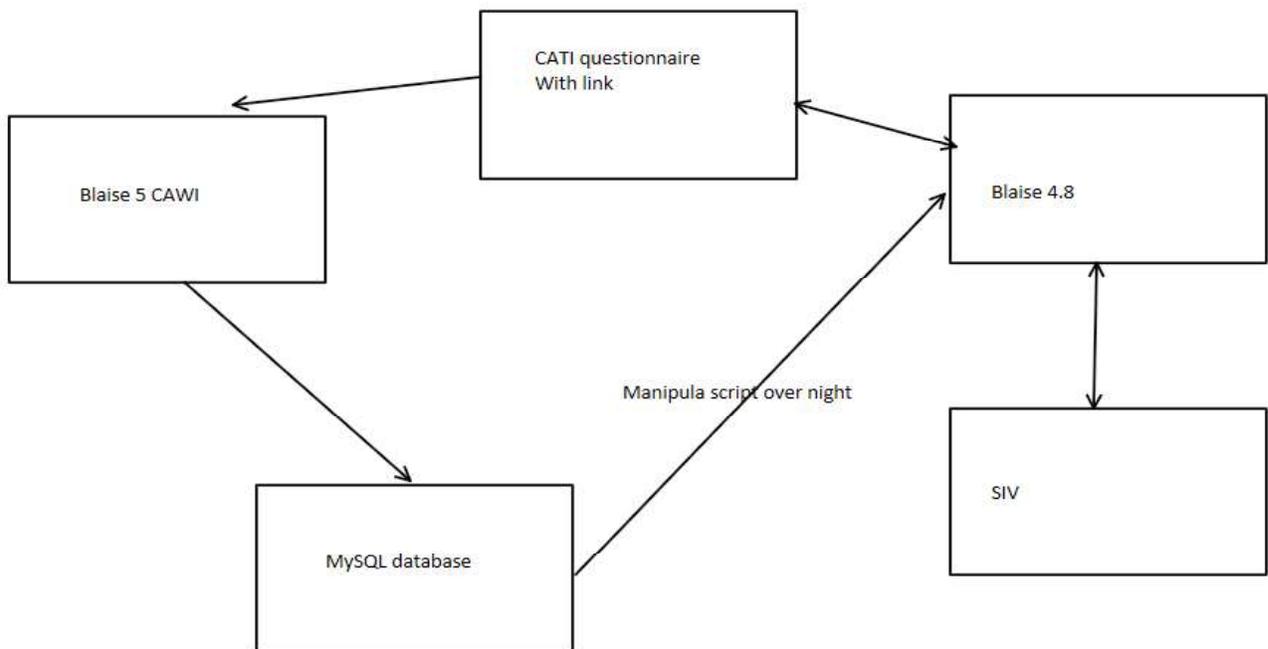


Figure 2 Emergency solutions for GOVCIT

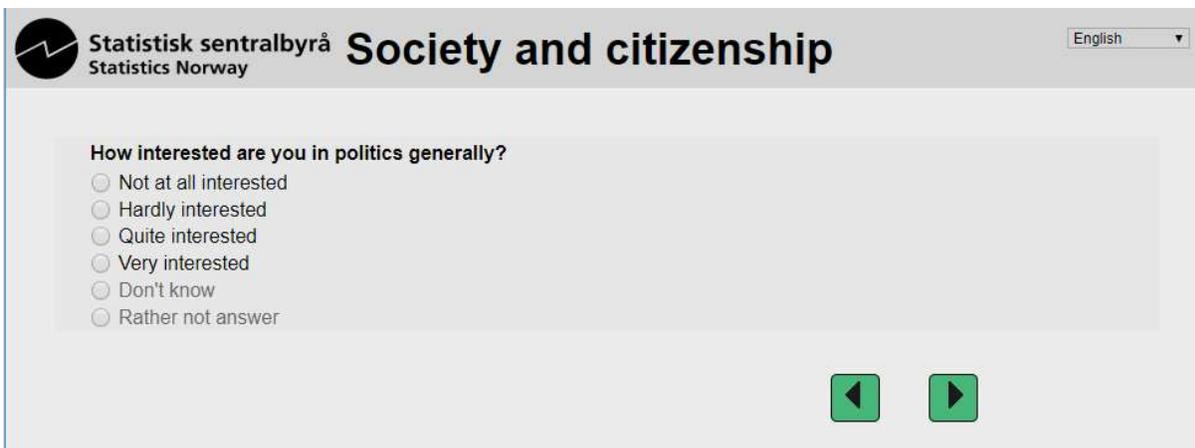


Figure 3 GOVCIT CAWI laptop, tablets

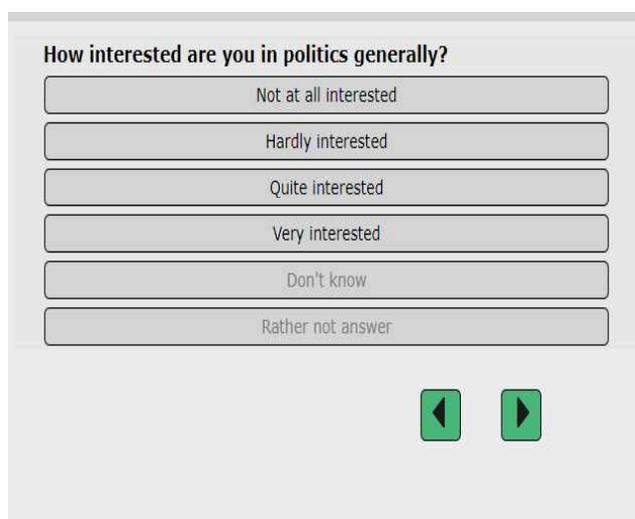


Figure 4 GOVCIT CAWI smartphone

Society and citizenship

Statistisk sentralbyrå
Statistics Norway

Society and citizenship

English

Don't know Rather not answer Appointment Send epost

io_nummer: , Navn: , alder: 35, Kjønn: mann, telefon:

How interested are you in politics generally?

Not at all interested Very interested
 Hardly interested Don't know
 Quite interested Rather not answer

◀ Previous Next ▶

Figure 5 GOVCIT CATI

3.4 Labour Force Survey (LFS) pilot

The labour force survey (LFS) is currently CATI only, but a pilot to develop a more flexible LFS is underway. A multimode Blaise 5 questionnaire has been developed, and the project will also participate in developing a more sophisticated integration between Blaise and SIV.

It was decided to convert and adapt the existing LFS Blaise 4.8 questionnaire to Blaise 5, rather than writing a new tailor made multimode questionnaire. The pilot could have been a good opportunity to create a less complex questionnaire. But it was decided that a conversion should be attempted because of time constraints, and because it would make comparison to the ordinary LFS easier. The conversion of the Blaise 4.8 code went well, and only minor changes were necessary to make it work in Blaise 5. Most of the remaining work was to make CAWI layouts for desktop and mobile, and further developments of CATI-solutions developed for GOVCIT.

3.4.1 Developments after GOVCIT

The CATI interface was updated slightly based upon feedback from interviewers. Changes includes the possibility to return to the dial from the appointment form and similar functionality in the main questionnaire.

Some screenshots follow below.

Ringebilde

Statistisk sentralbyrå
Statistics Norway

Ringebilde

Norsk

IO_nummer: 10001

Telefon 1:

Telefon 2:

Telefon 3:

Avtale til en bestemt tid, alder: 45, kjønn: mann

Bokommune: 0101

Adresse:

Postnummer: 1767

Poststed: HALDEN

E-post:

Kontaktperiode:

Periodenummer: 24

IO tilhører delutvalg: 1

Brukerkode:

Passord:

Intervjuer/gruppe: tth

Meldinger til intervjuer:

Når kan vi ringe deg tilbake?

Ikke en bestemt tid Foretrekker et bestemt tidsrom

Avtale til en bestemt tid Foretrekker noen dager i uka

Avtale startdato:

Avtale starttid:

Avtale slutt dato:

Avtale sluttid:

Valgte ukedager:

Mandag Onsdag Fredag

Tirsdag Torsdag Lørdag

Melding om avtalen:

Ringemeny: Start skjema Avtale

Ikke svar

Figure 6 Dialform

Lag en avtale

Statistisk sentralbyrå
Statistics Norway

Lag en avtale

Norsk

Du skal nå lage en avtale.

Når kan vi ringe deg tilbake?

Ikke en bestemt tid Foretrekker et bestemt tidsrom

Avtale til en bestemt tid Foretrekker noen dager i uka

Spørsmål: Appointment.AppointInfo.AppointType

Figure 7 Appointment form

Figure 8 Main questionnaire

3.4.2 What went wrong?

Our experience is that some problems first become obvious when a survey has started in the field, mainly because volume of test cases are too small when a questionnaire undergoes testing. When the first round of the LFS-pilot was put in production, it soon became apparent that something was amiss as the information in the CATI Dashboard showed too few completed cases. After some investigation it turned out that information was missing from the RegCalls block, and that many cases did not get a completed status.

3.4.3 Emergency solutions

It turned out that the system worked fine despite the error, in that completed cases were not delivered again by the scheduler the same day. Since we had the foresight to make our own finished variable, we could use this to exclude cases from the daybatch with select fields. The bug in Blaise has been fixed (in Blaise 5.4.4).

3.4.4 Future incremental updates

For the future waves we have planned updates, which includes more relevant information in dial questionnaire (information from previous waves) and minor usability changes after feedback from the CATI-interviewers. Better support for keyboard navigation in the latest version of Blaise 5 also helps.

4 Integration with our case management system (SIV)

4.1 4.8 solution

Our current data collection system is based primarily on Blaise 4.8 for CATI and CAPI, and SIV as our case management system. Blaise 5 is used for CAWI (excluding the two surveys mentioned in this paper), and is very loosely integrated with our systems. SIV is continually updated with events from Blaise 4.8,

and there is also a two-way link to update SIV or Blaise with changes in address and telephone numbers. From Blaise 5 SIV only receives events such as start session events and end questionnaire events, which are sufficient for CAWI.

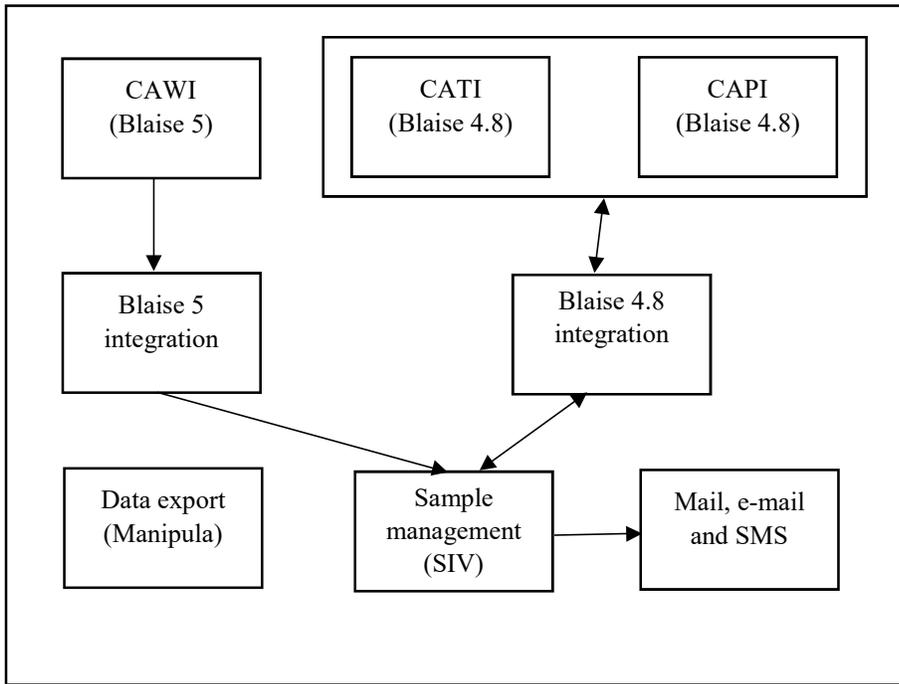


Figure 9 Blaise 4.8 og SIV (old)

4.2 5.x solution

The data collection system we are working towards will be without Blaise 4.8, negating the need to prepare the same questionnaire twice, which hopefully will save us some time, and make the system more robust. The synchronization mechanism will be totally rewritten, and this work is currently underway. We expect that we within six months will have a tightly integrated multimode data collection system, where it's possible to run all CAWI and CATI questionnaires in Blaise 5.

It is also planned to extend the integration between Blaise 5 and SIV significantly, compared to Blaise 4.8 and SIV. We wish SIV to read appointment information from Blaise, so that this information is available in SIV. In Blaise 4.8, information about all contact attempts were stored in the Blaise database itself. In the future we wish to store this information in SIV instead, which will make this valuable information much more accessible.

We are still considering whether our future CAPI solution should be online or offline, or if it should run on a PC or for example a pad. Until we have a satisfactory solution for CAPI in Blaise 5, we will run Blaise 4.8 in parallel. The most likely outcome is online CAPI, either using a PC or tablet, in contrast to our offline CAPI system of today.

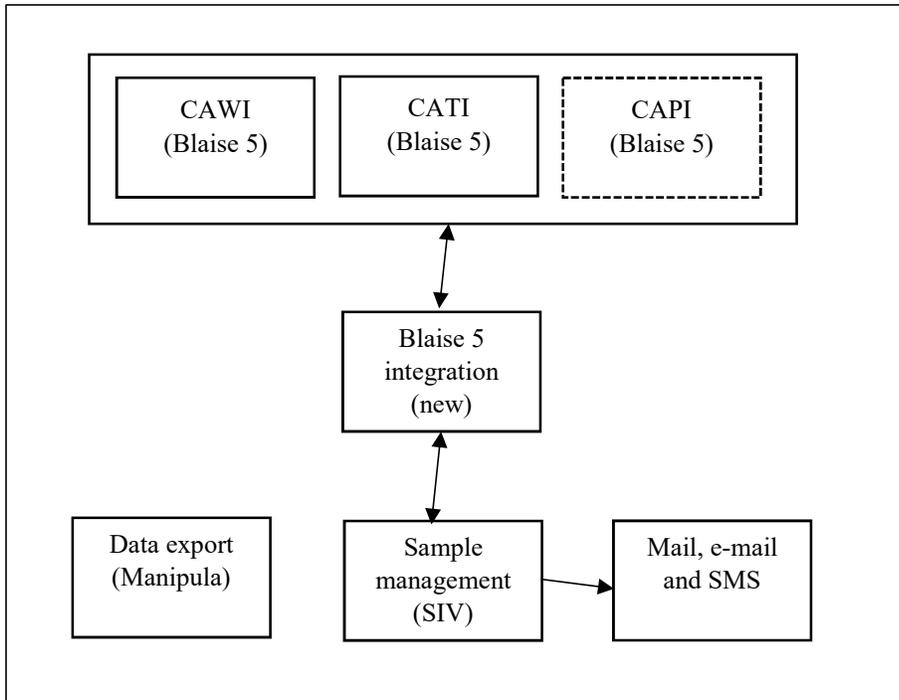


Figure 10 Blaise 5 and SIV (new)

5 Conclusion

With the work we have done on multimode in Blaise 5 in relation to the GOVCIT survey and the LFS, it has become apparent that Blaise 5 now has reached a level of feature completeness which makes it possible to replace Blaise 4.8 completely. The main obstacles to make this possible are dependent on internal development work at Statistics Norway. Although we have encountered errors in the Blaise software during the implementation, we feel that our CATI experience has been a success. The errors have been reported back and fixed, and sometimes real-world usage is the only way to iron out glitches in software as complex as Blaise.