

# COOPERATION ON MULTI-MODE DATA COLLECTION (MMDC)

## MIXED MODE DESIGNS FOR SOCIAL SURVEYS - MIMOD

### WP3: Case management in MMDC and related data logistics

WP3: CURRENT AND FUTURE DATA COLLECTION SYSTEMS IN THE ESS

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WP3 aimed at analysing the characteristics of efficient data collection systems for mixed-mode data collection and providing best practice solutions adopted in the ESS.

Two aims:

- 1) The first aim was to bring forward a thorough definition of what a data collection system is and find a practically useful typology of the different kinds of systems. The definition will include the listing of the important technical components and organisational processes needed for data collection in a mixed-mode design.
- 2) The second aim was to give an overview of data collection systems used or being prepared in the EU NSIs for mixed-mode data collection.

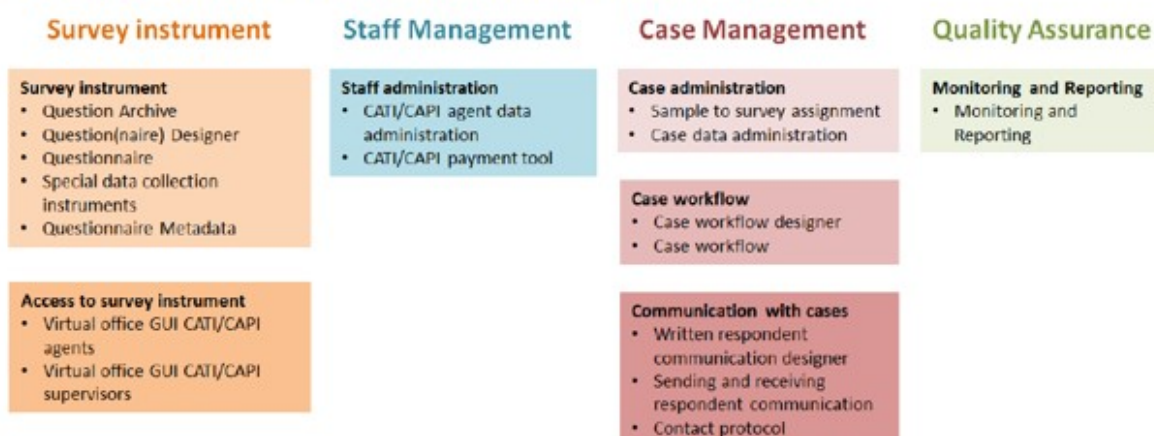
WP3 goal:

- Overview of Data Collection Systems (DCS) in use in the ESS
- Identify Organisational Needs and Best Practice Solutions
- Identify most important components of a modern Data Collection System

## Case Management System

It consists of 4 domains: The domain of the **survey instrument**, of **staff management**, of **case management** and of **quality assurance**.

Figure 1: The 4 domains of a Data Collection System and their technical components



## 1) Survey instrument

- Question Archive (all questions stored in one place, available to NSI staff, can be reused)
- Question(naire) Designer
- Questionnaire
- Special data collection instruments (New instruments like Diary Apps, Activity recording Apps, Data collection devices like smart watch etc. In future Case management systems, it should be possible to easily plug in these kinds of instruments, either instead of the questionnaire or by its side. That way the integration of new technologies would be supported.) – out of scope of WP3
- Questionnaire Metadata

Although the interviewed NSIs use different tools for questionnaire production (BLAISE, in-house developed, outsourced at private companies) all of them need to be programmed by rather complicated IT-syntax.

Especially in mixed-mode surveys, where the questionnaire must function in multiple modes and therefore must be programmed and tested most intensively, it is important to acquire or develop a component for questionnaire production, that brings together the steps of design, programming and testing. For that reason, some countries have started to integrate a questionnaire production component within their data collection system. This component brings together the steps design, programming and testing by offering user-friendly point-and-click questionnaire production.

All of the questionnaire production components have a function for exporting the questionnaire's metadata. This metadata file then can be imported into the actual questionnaire component. Doing so, the questionnaire is brought to life, and becomes ready for data collection. Some interviewed countries also have question banks included in their questionnaire production component or all questions of the questionnaire are stored in a library. The library is survey independent, which allows for the reuse of one specific question in multiple surveys. Using question banks serves the need for harmonization between surveys, overview of used questions and version control.

The use of a metadata standards is promising as this would ease the interchange of tools related to the questionnaire, such as question banks, questionnaire and dataset documentation and even the electronic questionnaire itself. Further research is needed to determine the most appropriate metadata standard for NSIs, with special attention to compability to academia and public opinion surveys.

It seems that there is still a need to agree on a questionnaire metadata standard. ESS Projects investigating this topic further could therefore be of high value.

*At least Austria, Czech, France, The Netherlands and Hungary are working on a central component for questionnaire design. With such, questions and questionnaires can be programmed in a user-friendly point-and-click way. Also question banks are made possible here. This helps to support the harmonization of questions between surveys. In regard to organizational change, in some countries central units for questionnaire design and testing have evolved.*

## 2) Staff Management

- CATI/CAPI agent data administration (With this component the interviewer staff and their attributes can be viewed and edited (e.g. name, address, contract etc.).)
- CATI/CAPI payment tool

### 3) Case Management

#### Case administration

- Sample to survey assignment  
For probability based samples this component offers the possibility to import the cases and their attributes in an efficient way. For non-probability samples the component offers different possibilities for cases to opt in to the survey. A strong sample to survey assignment component allows all kinds of cases (e.g. household, person, businesses) to be transferred to a survey, regardless of their origin (e.g. predefined dataset, from previous wave etc.). That way flexibility in regards to the units to be surveyed is assured, making the system usable for any kind of survey.
- Sample Data administration  
With this component the cases and their attributes can be viewed and edited (e.g. change of amount of household members, change of address or contact information etc.). Any change is protocolled and is in effect immediately. That way the promptly processing of cases is supported.

#### Case workflow

- Case Management workflow designer
- Case management workflow

Having a **central case administration**, that is a central place where all the sample cases are stored and their main data comes together, seems to be the key element of “new” data collection systems. In order to have efficiently run complex mixed-mode surveys, the case administration needs to be technically centralized.

Doing so, all the interviewed countries have the need to manage masterdata, statusdata and event history data per case. It became clear that within the ESS, **a standardization of disposition codes and temporary contact codes could be a promising task**. Not only would this strengthen the comparability of response rates, it would also save resources in the NSIs having to come up with standards across their surveys and modes themselves. Furthermore, if this crucial element of case management would be standardized, the interchange of components communicating with the case administration would be eased. Finally, it was striking that many of the countries with new systems strive towards the use of a pre-defined survey plan that is executed automatically. If choosing this very efficient approach, careful measures must be taken to still allow for spontaneous individual or group case treatment; as this is needed for adaptive and responsive design. How the contrast between standard survey plan and individual detour is resolved in practice should be further investigated.

Furthermore, a standardisation of disposition codes (record the outcome of data collection such as “Interview Complete”, “No contact”, “Refusal” and so on) and temporary contact codes within the ESS, could be a promising task. Not only would this strengthen the comparability of response rates, it would also save resources in the NSIs having to come up with standards across their surveys and modes themselves.

*Central Case Administration: all (except one) country with newly developed systems have centralized their case administration. There, all the relevant data per case come together. It seems that all countries need to administer very similar case data here. Namely, the cases’ masterdata (such as name, address, household structure etc.), case statusdata (final disposition and temporary contact codes) and event diary data. Organizationally, many countries now have a central data collection unit.*

*Survey Plan: at least Austria, Finland, Italy, The Netherlands, Sweden and Hungary have a pre-defined survey plan built into their new system. In this plan, general fieldwork activities, such as mode and emails to be sent, are specified before field start. These activities are then executed automatically by the system during data collection. Besides the general survey plan, in every country there are within-mode case management offices implemented. Here, a certain degree of freedom for handling the case during the mode's phase of data collection is given. We recommend implementing a survey plan for efficient mixed-mode data collection. But at the same time, careful measures must be taken to still allow for spontaneous individual or group case treatment.*

#### **Communication with cases**

- Written respondent communication designer
- Sending and receiving respondent communication
- Contact protocol

There is a trend in countries with new data collection systems in centralizing both inbound and outbound communication. Central inbound communication seems to best be organized as contact centers. But not many countries have integrated the tools used within the contact centers into their data collection systems. Those that have, make use of the cases's event diary. As one country shows, unifying all inbound contact channels, even more modern ones like webforms seems promising. For outbound communication three components are being used, namely template design, template administration and sending written communication via different channels. Here the usage of external tools and their integration into the data collection system seems to be more common than in other areas' components.

*Inbound Communication: at least Austria, France, Italy and The Netherlands can efficiently access and change the case administration data within their inbound communication component. Organizationally in some countries so called contact centers have evolved.*

*Outbound Communication: at least Austria, Finland, Italy, Norway, The Netherlands and Hungary make use of centralized outbound communication components. With these components written communications, such as letters, emails, sms, are pre-defined as templates. This is done by using a template designer tool, allowing for references of the central case administration data within the texts. Based on the templates the actual written documents can be generated during data collection and automatically sent to a case. In regard to organization, in some countries central communication units have evolved.*

## **4) Quality Assurance**

Quality assurance is achieved by the possibility to track the status of the cases, the questionnaire and the agents at any time in regards to predefined quality and performance indicators. The indicators may be viewed at live (Monitoring) or exported at certain points in time as datasets, tables or graphs (Reporting). That way it allows field managers to adapt to the situation at any given time, assuring high data quality.

*Monitoring and Reporting: at least in Austria, Finland, Italy, Poland, The Netherlands and Hungary more sophisticated processes for monitoring and reporting the field phase have evolved. The key aspect here is to find the balance between standardized live monitoring of key performance indicators and survey specific detailed reports. In order to harmonize this, in some countries central monitoring/ reporting units have evolved.*

## Summary

The first main dimension to distinguish the CMS is the degree to which the different components are integrated in one system. Integration can be reached by having the components linked to each other in a way that information is automatically transferred from one component to the other.

Countries with a higher degree of component integration in their systems seem to less likely miss an important domain for data collection. The least developed domain in many countries seems to be communications with cases. This domain might be the furthest developed in Finland.

The tools in use for the different data collection components can be developed in house by the NSI or can be external tools that are developed and supported by a commercial company.

The Case Management Systems within the ESS is very heterogeneous. They differentiate along the following four dimensions: (1) the degree of component integration, (2) the component completeness, (3) the degree of in house developed product usage and (4) the survey integration.

In terms of input harmonisation between countries and in terms of resource spending in the ESS overall, the degree of in house developed products that cannot be shared with other systems should be kept to a minimum. There seems to be an opposite trend towards more in house development within the ESS.

The world of social statistics surveys and business surveys has been organizationally separated in the vast majority of NSIs. Accordingly, there are mostly two separated data collection systems for these survey types. But from the technical point of view it could be possible to both run business and household surveys within the same system. There are already countries within the ESS that have developed such systems, but there does not seem to be a lot of them. The question arises if the development of one single integrated system could benefit when resources are joint between these sectors from the beginning.

Furthermore, the architecture of the data collection system is strongly influenced by the NSI's IT strategy regarding the usage of external tools. As already seen in the MIMOD Survey many NSIs develop a system in-house, meaning that the majority of the components and their interfaces are developed in-house. But why do NSIs choose to do so? Wouldn't it be much less costly (also in terms of time, and in terms of the overall quality of the system) to use an external system? Or at least use as many external tools as possible?

Many countries experienced an organizational change because of the introduction of a new data collection system. A systematic change management of the organization is necessary before trying to implement a new system. The processes of organizational change and technical change should always be thought together.

### **Stop the trend of in house developments.**

From a European perspective it seems unreasonable that these many different in house developments take place in terms of input harmonisation and time and money resources. We therefore want to discuss the following working thesis:

- The most efficient way for Europe would be to complete the survey instrument Blaise by joint resources to a full Case Management System by adding the missing components of the domains staff management, case management and quality assurance.
- The most inefficient way is that every country develops their very own domains.

- The middle way would be to build an integrated system of the domains staff management, case management and quality assurance in which an external survey instrument may be plugged in.

Right now it seems that most countries with new CMS have chosen the most inefficient way. **We believe Eurostat must stronger support the joint developments of domains in order to stop this trend.**

It is to be discussed if there could be a system of data collection that can be used by other countries as a whole. If organizations and IT structure differ that vastly, this could become a very difficult task. **We therefore recommend not thinking about the whole system when trying to collaborate. Instead we should think of the main components and especially of certain metadata. First joint projects could start with working on a single component or metadata set. Countries then might be able to integrate just the components they need into their systems.**