COOPERATION ON MULTI-MODE DATA COLLECTION (MMDC)

MIXED MODE DESIGNS FOR SOCIAL SURVEYS - MIMOD

GRANT AGREEMENT FOR AN ACTION WITH MULTIPLE BENEFICIARIES

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Report on MIMOD survey on the state of the art of mixed mode for EU social surveys

WP1 - Deliverable 1

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WP1. : Investigation of mode organisation (concurrent vs consecutive multi-mode data collection)

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Summary

This report describes the main results of the "Survey on the state of the art on mixed-mode for social surveys" run among the European NSIs from March 26 th to May 5th 2018. The aim of survey is to collect data useful to the specific needs of all WPs and also to update and supplement the information on the use of data collection modes which was already investigated in 2014 by the previous ESSnet DCSS (Data Collection in Social Surveys).

1. Survey design and organisation

The design and organisation of the survey have been coordinated by Istat.

The structure and the content of the survey questionnaire have been designed in cooperation with all WPs and with the contribution of some of the supporting countries.

Each WP designed its own section to get information necessary to its specific goals and subsequently all sections were put together. During the kick-off meeting in Vienna (1st and 2nd February 2018) final decisions were taken about the topics to be investigated. Afterwards some time was still needed to look for coherence among the investigated concepts. By the beginning of March, the survey questionnaire was ready to be implemented in the electronic format.

The survey was based on a web questionnaire developed by Istat with the open source software LimeSurvey. A variety of question types and formats were covered, including single-code, multi-code, numeric fields and open texts fields. For the complete version of the questionnaire see Annex 1 of this deliverable.

The survey started on March 26th and ended on May 5th.

Invitations were sent by email to the contact person of each NSIs who had been indicated to Eurostat by the directors of social statistics. The email contained an explanation of the survey contents and aims as well as a direct link to the questionnaire. In this way NSIs could access directly to their own questionnaire thus simplifying their task.

All 31 NSIs participated to the survey and only two reminders were needed to boost their cooperation: a first reminder was sent just before the first deadline and another one to inform non-respondents that the deadline had been postponed to give them few more days to participate.

2. Survey aims and contents

The aim of the MIMOD survey is to investigate on the state of the art on mixed-mode for social surveys in the European frame.

The content of the survey questionnaire reflects the structure of the MIMOD project: each section corresponds to a specific WP.

The questionnaire is structured as follows:

- Section A: Data collection strategies
- Section B: Questionnaire design
- Section C: Use of smartphones and tablets
- Section D: Methodologies to deal with mode effects
- Section E: Case Management Systems

Section A corresponds to WP1, but also asks for information useful to the entire project. In particular, it investigates i) which data collection modes are used for the main social surveys and how modes are combined, ii) the five-year trend in the use of mixed-mode and of the web mode in social surveys, iii) how concurrent and sequential mixed-mode designs are managed, iv) which communication strategies with respondents are used, v) the use of incentives to respondents, vi) the management of break-offs and vii) the use of adaptive/responsive survey designs. Since it was too difficult to collect detailed information on the last topic through a limited number of structured questions, it was decided to ask for contact details of experts to be contacted later for a personal semi-structured telephone interview on this subject.

Section B corresponds to WP4 and investigates on questionnaire design strategies adopted for mixed-mode surveys that include the web mode. It asks for information aimed at understanding whether survey questionnaires differ across modes, in what they differ (i.e. number of questions, don't know options, errors and consistency, etc.) and the extent of these differences (large to small, many or few questions).

Section C corresponds to WP5 and investigates on the use of smartphones as a new channel for respondents to participate in social surveys. Like Section B, it investigates only on mixed-mode surveys that adopt the web mode and asks for information about i) adaptation of questionnaire design to smartphones, ii) the management of the use of smartphone by respondents (encouraged or discouraged), iii) the use of apps and iv) pros and cons of the use of this instrument to fill out statistical questionnaires.

Section D collects information strictly connected to WP2 aims. It investigates about activities and methods recently used by NSIs to assess and/or to adjust for mode effect due to the adoption of mixed-mode data collection. It also asks to supply methodological reports through links or by uploading documentation. Due to its specificity, it was recommended that a methodologist filled it out.

Section E, the last section, corresponds to WP3 and collects information useful to provide a detailed and exhaustive definition of 'Case Management System' (CMS) and to give an overview on the state of the art of CMS. Therefore, it collects data about technical components and organisational aspects of mixed-mode data collection processes of EU NSIs.

Since the questionnaire sections could be answered by different professional profiles, it was made it possible to fill out sections contemporarily, by choosing them through an index. The questionnaire could be submitted only once all sections were correctly filled out.

3. Main results

This chapter contains the main survey results. For some topics, disaggregation per country and/or per survey is given.

More analytic and detailed results can be obtained by analysing the qualitative information collected, in general, through open ended questions. They will be provided in the second deliverable of this WP (methodological report) and are also described in the reports of other WPs as part of their deliverables.

3.1 Modes used for data collection strategies in social surveys

Mixed-mode strategies are nowadays the 'standard' approach to collect data in social surveys: all EU NSIs, except one (Romania), use them.

The web mode is used as part of the mix in 23 NSIs, but it is not used at all by 6 NSIs (Table 1).

Table 1. Data collection strategies used by EU NSIs

	Absolute values	
The use of mixed-mode		
• Use mixed-mode strategies	30	
- *mixed-mode including CAWI*		*23*
- *mixed-mode without CAWI*		*7*
• Do not use mixed-mode strategies	1	
The use of web mode		
• Use the web mode	25	
• Do not use the web mode	6	
Total countries	**31**	

Mixed-mode with CAWI (23 countries)	**Mixed-mode without CAWI (7 countries)**	**Do not use the web mode (6 countries)**
Austria, Belgium, Croatia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Italy, Latvia, Lithuania, Luxembourg, Norway, Poland, Portugal, Slovenia, Spain, Sweden, Switzerland, The Netherlands	Bulgaria, Cyprus, Czech Republic, Ireland, Malta, Slovak Republic, United Kingdom	Cyprus, Czech Republic, Malta, Romania, Slovak Republic and United Kingdom.

The use of mixed-mode strategies and of the CAWI mode has increased in the last five years. Specifically:

- the adoption of mixed-mode strategies in social surveys has increased. The Netherlands is the only country that declares a decreasing trend because "*some surveys that were mixed mode 5 years ago are now web only"* (Table 2);
- in almost all countries where the mixed-mode increased, also the web mode increased (Table 3). Only for Bulgaria and Ireland the use of the web mode remained unchanged.
- the web mode increased mainly as a component of mixed-mode data collection strategies and for 4 countries both as a single mode and as a component of mixed-mode (Table 4).

Table 2. The use of mixed-mode in social surveys in the last 5 years

	Absolute values	**Percent values[1]**
Mixed mode increased	22	71.0
Mixed-mode remained unchanged	8	25.8
Mixed-mode decreased	1	3.2
Total countries	**31**	**100**

Mixed-mode increased (22 countries)	**Mixed-mode remained unchanged (8 countries)**	**Mixed-mode decreased (1 country)**
Austria, Belgium, Bulgaria, Croatia, Denmark, Estonia, Finland, France, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Poland, Portugal, Slovak Republic, Slovenia, Spain, Sweden, Switzerland	Cyprus, Czech Republic, Germany, Iceland, Malta, Norway , Romania, United Kingdom	The Netherlands

[1] *Calculated on countries*

Table 3. The use of web mode in social surveys in the last 5 years

	Absolute values	**Percent values[1]**
Web mode increased	20	64.5
Web mode remained unchanged	11	35.5
Web mode decreased	0	0
Total countries	**31**	**100**

Web-mode increased (20 countries)	**Mixed-mode remained unchanged (11 countries)**
Austria, Belgium, Croatia, Denmark, Estonia, Finland, France, Germany, Hungary, Italy, Latvia, Lithuania, Luxembourg, Norway, Poland, Portugal, Slovenia, Spain, Sweden, Switzerland	Bulgaria, Cyprus, Czech Republic, Greece, Iceland, Ireland, Malta, Romania, Slovak Republic, The Netherlands, United Kingdom

[1] *Calculated on countries*

Table 4. The use of web mode has increased:

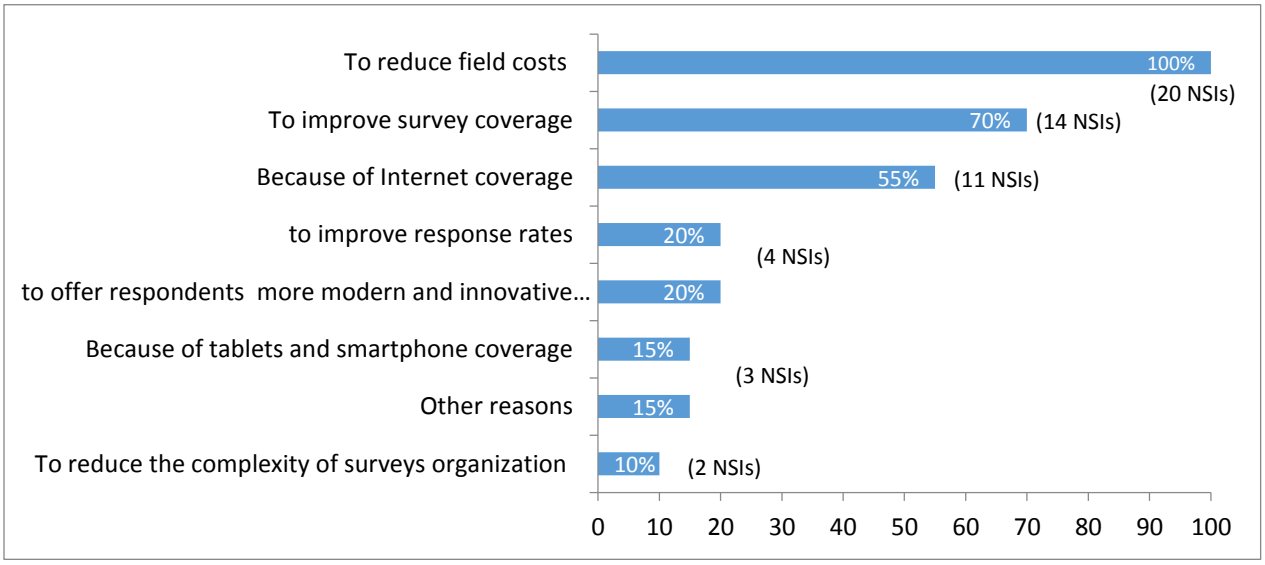
	Absolute values	Percent values[1]
..as a component of mixed-mode	16	80.0
...both as a single mode and as a component of mixed-mode	4	20.0
...as a single mode	0	0
Total	20	100

[1] *Calculated on countries*

Web-mode increased as a component of mixed-mode (16 countries)	Web-mode increased both as a single and as a component of mixed-mode (4 countries)
Austria, Belgium, Croatia, Denmark, Finland, France, Germany, Hungary, Latvia, Lithuania, Poland, Portugal, Slovenia, Spain, Sweden, Switzerland	Estonia, Italy, Luxembourg, Norway

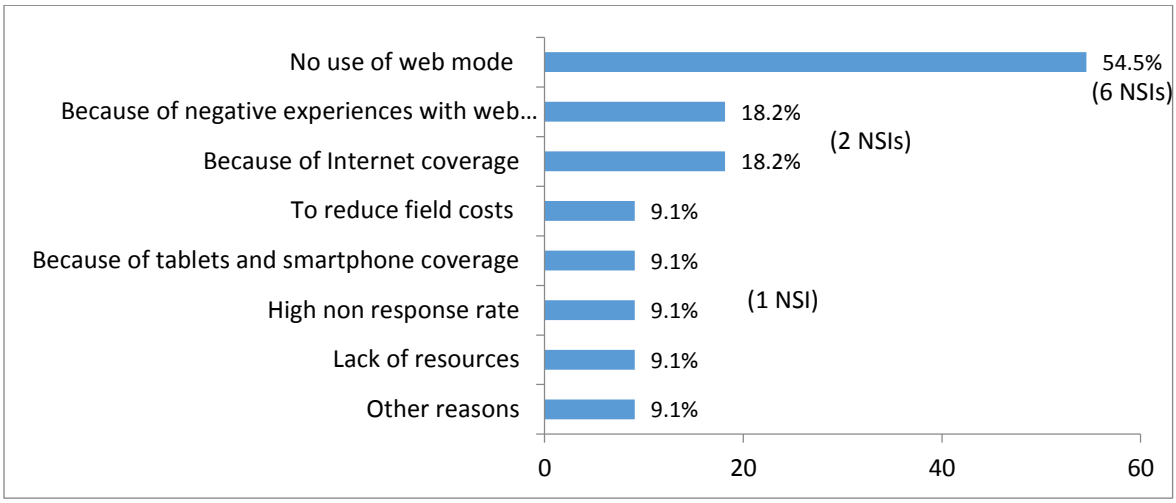
The main reasons why the use of the web mode has increased in the last five years are the reduction of survey costs (all NSIs), the improvement of surveys coverage (70 percent, 14 NSIs) and the growth of Internet coverage (55 percent, 11 NSIs) (Figure 1).

Figure 1. Reasons why the use of web mode in social surveys has increased (20 countries)



On the other side, the constant trend in the use of the web mode (Figure 2) is due to the negative experiences with web surveys 18.2 percent (2 NSIs) and because of the low internet coverage 18.2 percent (2 NSIs). For 6 NSIs the constant trend means that they are not using or are not yet using the web mode in social surveys.

Figure 2. Reasons why the use of web mode in social surveys remained unchanged (11 countries)



In order to evaluate the extent of the use of mixed-mode and of the different data collection techniques and sources, the analysis of results is referred to the 9 main social surveys run in the 31 European NSIs.

The main social surveys investigated are:

- Labour Force Survey waves 1 and 2 (LFS w1 and LFS w2)
- Survey on Income and Living Conditions waves 1 and 2 (EU-SILC w1 and EU-SILC w2+)
- European Health Interview Survey (EHIS)
- Adult Education Survey (AES)
- Survey on Information and Communication Technology (ICT)
- Household Budget Survey (HBS)
- Harmonised European Time Use Survey (HETUS/TUS).

Modes and sources investigated are:

- CATI
- CAPI
- PAP/PAPI
- CAWI
- Registers
- Other sources (i.e. big data, web scraping, gps, apps, etc.).

Table 5 shows that almost 60 percent of social surveys is carried out through the mixed-mode data collection strategy. However, the use of a single technique is still high (40.5 percent). Mixed-mode strategies that are made of only data collection techniques are adopted in 40.9 percent of cases while only a small portion (10 percent) is made of modes and data sources. Multi-mode, which consists in the use of different data collection modes to administer different sections of a questionnaire to the same respondent, is used in about 7 percent of the social surveys in the EU. It must be said that not all NSIs run the social surveys investigated.

Table 5. Data collection strategies in social surveys: mixed-mode versus single mode

	Percent values[1]	
Mixed-mode	50.9	
- *Mix of modes and sources*		*10.0*
- *Mix of only data collection techniques*		*40.9*
Single mode	40.5	
Multi-mode	7.2	
Surveys not done[2]	1.4	
Total	100	

[1] *Calculated on surveys.*
[2] *Iceland does not run AES and HEIS; Switzerland does not run EHIS and HETUS.*

The high use of mixed-mode can be also observed by disaggregating data per surveys. Anyway, table 6 shows that for EHIS, AES and HETUS data collection strategies based on a single technique are the preferred ones and that for HBS and HETUS the multi-mode approach is largely adopted.

Table 6. Mixed-mode versus single mode per survey

	Absolute values					**Percent values**				
Surveys	**Mixed mode/sources**	**Single mode**	**Multi-mode**	**Survey not done**	**Total countries**	**Mixed mode/sources**	**Single mode**	**Multi-mode**	**Survey not done**	**Total countries**
LFS w1	18	13			31	**58.1**	41.9			100
LFS w2	23	7	1		31	**74.2**	22.6	3.2		100
EU SILC w1	19	12			31	**61.3**	38.7			100
EU SILC w2	20	11			31	**64.5**	35.5			100
EHIS	12	16	2	1	31	38.7	**51.6**	6.5	3.2	100
AES	14	15	1	1	31	45.2	**48.4**	3.2	3.2	100
ICT	18	12	1		31	**58.1**	38.7	3.2		100
HBS	15	9	7		31	**48.4**	29.0	22.6		100
HETUS/TUS	3	18	8	2	31	9.7	**58.1**	25.8	6.5	100
Total per strategy	**142**	**113**	**20**	**4**	**279**	**50.9**	**40.5**	**7.2**	**1.4**	**100**

[1] *Calculated on surveys*

Considering mixed-mode surveys (50.9 percent of total surveys), several combinations of modes and sources are used by the NSIs. These combinations do not include CAWI in 57 percent of the cases and, in general, make a large use of modes that are computer-assisted and interviewer administered (CATI and CAPI) (Table 7).

Table 7. Combinations of modes/sources in mixed-mode surveys

Mixed-mode surveys	**Percent values**[1]	
Mixed-mode surveys **without** CAWI	57.0	
○ *CAPI-PAPI*		*13.4*
○ *CATI-Registers*		*13.4*
○ *CATI-CAPI-Registers*		*10.6*
○ *CAPI- Registers*		*5.6*
○ *Other combinations without CAWI*		*14.0*
Mixed-mode surveys **including** CAWI	43.0	
○ *CATI-CAWI*		*7.7*
○ *CAPI-CAWI*		*7.7*
○ *CATI-CAPI-CAWI-Registers*		*7.0*
○ *PAPI-CAWI*		*4.9*
○ *CATI-CAWI-Registers*		*4.9*
○ *Other combinations with CAWI*		*10.6*
Total	**100**	***100***

[1] *Calculated on surveys*

The analysis of mixed-mode strategies per survey leads to similar results (Table 8). Among those countries that use mixed-mode, the most frequently used combinations of modes are:

- **CATI-Registers** for **LFS**;
- **CAPI-PAPI** for **LFS wave 1, HBS** and **HETUS**;
- **CATI** and **CAPI** combined with **Registers** for **EU-SILC**;
- **CAPI-CAWI** for **EHIS and AES**.

Table 8. Mixed-mode data collection strategies per survey- percent values (absolute values)

MODES/SOURCES	LFS w1	LFS w2	EU-SILC w1	EU-SILC w2	EHIS	AES	ICT	HBS	HETUS/TUS
Two modes/sources				**PERCENT VALUES**[1]					
CATI-CAPI			5.3 (1)	5.0 (1)		7.1 (1)	5.6 (1)		
CATI-PAPI		26.1 (6)							
CATI-CAWI	11.1 (2)	13.0 (3)	5.3 (1)	5.0 (1)		14.3 (2)	11.1 (2)		
CATI-REGISTERS	**22.2 (4)**	**21.7 (5)**	**21.1 (4)**	20.0 (4)		7.1 (1)	5.6 (1)		
CAPI-PAPI	**22.2 (4)**		10.5 (2)	10.0 (2)	8.3 (1)	14.3 (2)	5.6 (1)	**33.3 (5)**	**66.7 (2)**
CAPI-CAWI			5.3 (1)	5.0 (1)	**33.3 (4)**	**21.4 (3)**	5.6 (1)	6.7 (1)	
CAPI-REGISTERS	16.7 (3)		**21.1 (4)**	5.0 (1)					
PAPI-CAWI			5.3 (1)	5.0 (1)	16.7 (2)	7.1 (1)	11.1 (2)		
REGISTERS-OTHER								6.7 (1)	
Three modes/sources									
CATI-CAPI-REGISTERS	11.1 (2)	17.4 (4)	15.8 (3)	**25.0 (5)**					33.3 (1)
CATI-CAPI-CAWI	5.6 (1)			5.0 (1)		7.1 (1)	16.7 **(3)**		
CATI-CAPI-PAPI	5.6 (1)	17.4 (4)							
CATI-CAWI-REGISTERS			5.3 (1)	5.0 (1)	8.3 (1)		16.7 **(3)**	6.7 (1)	
CAPI-CAWI-REGISTERS					16.7 (2)	7.1 (1)	5.6 (1)		
CATI-PAPI-CAWI							5.6 (1)		
CAPI-PAPI-REGISTERS								20.0 **(3)**	
CAPI-PAPI-CAWI								20.0 **(3)**	
Four modes/sources									
CATI-CAPI-CAWI-REGISTERS	5.6 (1)	4.3 (1)	5.3 (1)	10.0 (2)	8.3 (1)	14.3 (2)	11.1 (2)		
CATI-PAPI-CAWI-REGISTERS					8.3 (1)				
CATI-PAPI-REGISTERS-OTHER								6.7 (1)	
Total countries using mixed-mode	**100 (18)**	**100 (23)**	**100 (19)**	**100 (20)**	**100 (12)**	**100 (14)**	**100 (18)**	**100 (15)**	**100 (3)**

[1] *Calculated on countries*

As to the use of a single data collection technique, it results that PAP/PAPI and CAPI are the most frequently used modes (more than 40 percent of surveys in EU), while CATI is adopted for about 10 percent of surveys and CAWI for not even 2 percent (Table 9).

Table 9. Modes adopted for single mode data collection strategies

Single mode	Percent values[1]
PAP/PAPI	45.1
CAPI	42.5
CATI	10.6
CAWI	1.8
Total	100

[1] *Calculated on surveys using single mode*

The analysis of single mode strategies per survey confirms that CAPI and PAP/PAPI are the most frequently adopted techniques. CAWI is used as single mode only by Luxembourg for AES and by The Netherlands for HBS (Table 10).

Table 10. Single mode data collection strategies per survey - percent values (absolute values)

MODES	LFS w1	LFS w2	EU SILC w1	EU SILC w2	EHIS	AES	ICT	HBS	HETUS/TUS
Single technique				**PERCENT VALUES[1]**					
CATI		**57.1**			12.5	20.0	25.0		
		(4)			(2)	(3)	(3)		
CAPI	**76.9**		**66.7**	**63.6**	**43.8**	**46.7**	25.0	22.2	22.2
	(10)		**(8)**	**(7)**	**(7)**	**(7)**	(3)	(2)	(4)
PAP/PAPI	23.1	42.9	33.3	36.4	**43.8**	26.7	**50.0**	**66.7**	**77.8**
	(3)	(3)	(4)	(4)	(7)	(4)	(6)	(6)	**(14)**
CAWI						6.7		11.1	
						(1)		(1)	
Total countries using single mode	100 (13)	100 (7)	100 (12)	100 (11)	100 (16)	100 (15)	100 (12)	100 (9)	100 (18)

[1] *Calculated on countries*

3.1.1 Mixed-mode designs: concurrent or sequential?

The survey investigated on the use of concurrent and sequential mixed-mode designs.

In a concurrent mixed-mode design, different data collection modes are in the field at the same time. Modes can be assigned in advance to sub-groups of sample units or sample units can choose the mode they prefer. On the contrary, a sequential mixed-mode design is used when different data collection modes are in the field at different periods of time. Sometimes it is preferred to use both strategies, with a partly sequential and partly concurrent administration of modes.

In the following analysis, up to paragraph 3.2, we will consider only surveys using a mix of techniques and not data sources or Registers (we won't take into account surveys using for example a mix like 'CATI-Registers').

The findings show that mixed-mode designs are mainly based on a concurrent approach (52.2 percent), while the use of a sequential administration of modes is 15 percent of the total surveys (Table 11).

Table 11. Concurrent and sequential mixed-mode designs

	Percent values[1]
Concurrent mixed-mode designs	52.2
Partly sequential, partly concurrent mixed-mode designs	32.7
Sequential mixed-mode designs	15.0
Total	**100**

[1] *Calculated on surveys using mixed-mode designs*

Evidence of a larger use of concurrent design is also given by the following table, where data are disaggregated by surveys. The table shows that this design is especially used for LFS wave 2 and EU-SILC wave 1 (20 percent points more than the average value).

Table 12. Concurrent versus sequential mixed-mode designs per surveys

	Absolute values				**Percent values[1]**			
	Concurrent mixed-mode	**Partly sequential, partly concurrent**	**Sequential mixed-mode**	**Total per countries**	**Concurrent mixed-mode**	**Partly sequential, partly concurrent**	**Sequential mixed-mode**	**Total per countries**
LFS wave 1	5	5	1	11	**45.5**	**45.5**	9.1	100
LFS wave 2	13	4	1	18	**72.2**	22.2	5.6	100
EU-SILC wave 1	8	2	1	11	**72.7**	18.2	9.1	100
EU-SILC wave 2	9	5	1	15	**60.0**	33.3	6.7	100
EHIS	5	4	3	12	**41.7**	33.3	25.0	100
AES	3	7	3	13	23.1	**53.8**	23.1	100
ICT	6	6	5	17	**35.3**	**35.3**	**29.4**	100
HBS	8	4	1	13	**61.5**	30.8	7.7	100
HETUS/TUS	2	0	1	3	**66.7**	0.0	33.3	100
Total per strategy	**59**	**37**	**17**	**113**	**52.2**	**32.7**	**15.0**	**100**

[1] *Calculated on surveys using mixed-mode designs*

Considering only those surveys using a sequential or a party sequential mixed-mode design, 77.8 percent adopt the same sequence of modes for all sample units and 22.2 percent use a different sequence for different sample subgroups. Values are very small, but EU-SILC Wave 1, AES, ICT and HETUS/TUS present the highest percentages of countries using the same sequence for all sample units.

Table 13. Use of the same sequence for all sample units or different sequence for different sample subgroups, by survey [1]

Survey	Absolute values			Percent values		
	Same sequence	Different sequence	Total per countries	Same sequence	Different sequence	Total per countries
LFS wave 1	4	2	6	66.7	33.3	100.0
LFS wave 2	3	2	5	60.0	40.0	100.0
EU-SILC wave 1	3	0	3	100.0	0.0	100.0
EU-SILC wave 2	5	1	6	83.3	16.7	100.0
EHIS	5	2	7	71.4	28.6	100.0
AES	9	1	10	90.0	10.0	100.0
ICT	9	2	11	81.8	18.2	100.0
HBS	3	2	5	60.0	40.0	100.0
HETUS/TUS	1	0	1	100.0	0.0	100.0
Total per strategy	**42**	**12**	**54**	**77.8**	**22.2**	**100.0**

[1] *Only for surveys using sequential or partly sequential mixed mode design*

3.1.2 Respondents' mode choice

In mixed-mode surveys, sometimes respondents are given the chance to choose the mode to participate a survey. The findings of this survey (Table 14) show that 44.2 percent of mixed-mode surveys allows respondents' mode choice, while 41.6 percent assign modes to sample units. 14 percent give the possibility to choose mode only under certain conditions (for instance, at the end of LFS wave 1 respondents can choose if they would like a CAPI or CATI interview at wave 2). EHIS presents the highest percentage for allowing mode choice (58.3 percent); on the contrary, EU-SILC wave 1 has the greatest quote of no choice (54.5 percent). For HETUS/TUS none of the three countries allows to choose the mode.

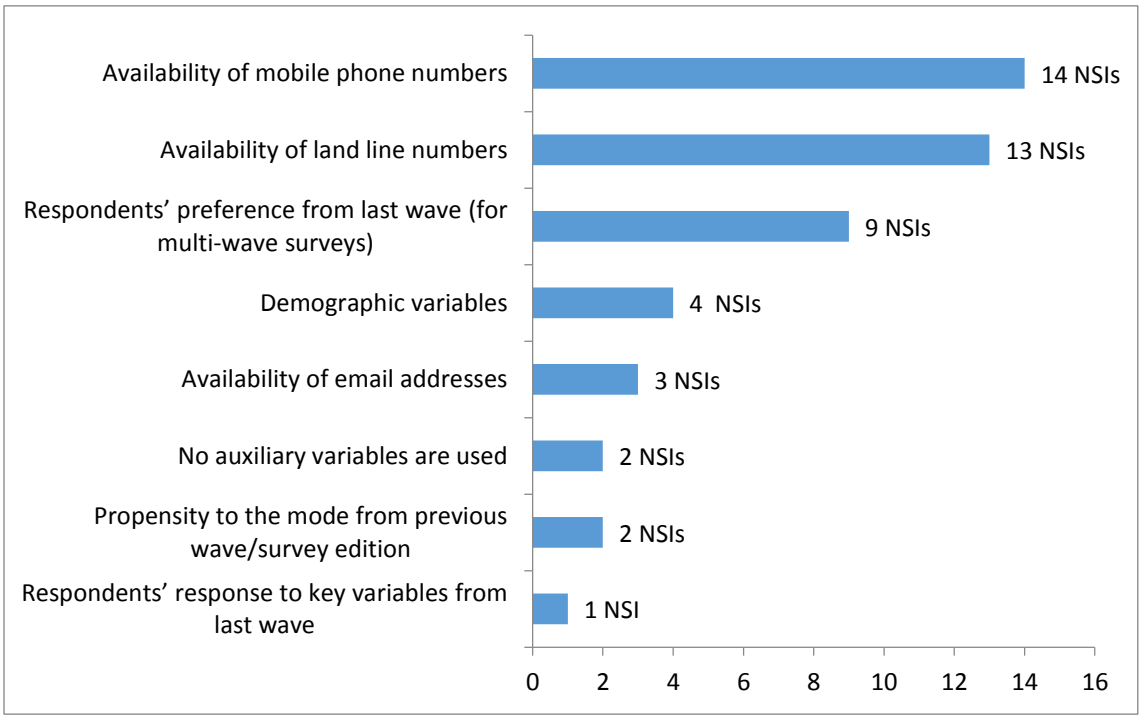
Table 14. Respondents' chance to choose the mode, by survey[1]

Survey	Absolute values				Percent values			
	Mode chosen by respondents				Mode chosen by respondents			
	Yes	Only under certain conditions	No	Total per countries	Yes	Only under certain conditions	No	Total per countries
LFS wave 1	5	1	5	11	45.5	9.1	45.5	100.0
LFS wave 2	8	3	7	18	44.4	16.7	38.9	100.0
EU-SILC wave 1	4	1	6	11	36.4	9.1	54.5	100.0
EU-SILC wave 2	7	2	6	15	46.7	13.3	40.0	100.0
EHIS	7	2	3	12	58.3	16.7	25.0	100.0
AES	6	1	6	13	46.2	7.7	46.2	100.0
ICT	7	5	5	17	41.2	29.4	29.4	100.0
HBS	6	1	6	13	46.2	7.7	46.2	100.0
HETUS/TUS	0	0	3	3	0.0	0.0	100.0	100.0
Total per strategy	**50**	**16**	**48**	**113**	**44.2**	**14.2**	**41.6**	**100.0**

[1] *Calculated on surveys using mixed-mode designs*

Mode assignment is adopted especially when auxiliary variables to be used for this purpose are at disposal. The availability of mobile numbers or land line numbers are used for deciding modes respectively by 14 and 13 countries. For what concerns multi-wave surveys, 9 NSIs assign modes in order to meet respondents' preference expressed during the previous wave (Figure 3).

Figure 3. Auxiliary variables used for mode assignment (number of NSIs)[1]



[1] *Multi-response variable*

3.1.3 Communication strategies and incentives

To communicate with respondents, half of the NSIs use communication strategies that are equally structured for all social surveys, while the other half prefer to adapt them to each survey (Table 15). Advance letters or invitations are the most frequently used means of communication which are made of paper letters. Paper letters are also used as reminders to CAWI non-respondents.

A detailed analysis of the combination of the different communication means will be provided in deliverable 2 of WP4.

Table 15. Communication strategies for mixed-mode data collection

	Absolute values	Percent values[1]
Uniform communication strategy	15	50.0
Different communication strategies	15	50.0
Total	30	100

[1] *Calculated on countries*

In order to encourage survey response, some countries offer an incentive to respondents. This typically comes in two main forms: monetary and non-monetary. Whatever the form, incentives are a good way not only to increase response rates, but also to thank respondents for their time. Table 16 shows the number of NSIs giving an incentive for each survey. It is interesting to notice that more incentives are given for HBS (9 countries out of 14), followed by AES (7 countries out of 13) and EU-SILC wave 2 (7 countries out of 15). For HETUS/TUS all three NSIs running this survey with mixed-mode offer an incentive to respondents.

Table 16. The use of incentives by survey

Survey	Countries adopting mixed-mode		
	Offering an incentive	Total	Percent values
LFS wave 1	3	11	27,3
LFS wave 2 and subsequent ones	2	18	11,1
EU-SILC wave1	5	11	45,5
EU-SILC wave 2 and subsequent ones	7	15	46,7
EHIS	4	12	33,3
AES	7	13	53,9
ICT	4	17	23,5
HBS	9	14	64,3
HETUS/TUS	3	3	100

In some cases incentives are offered unconditionally. For instance, some surveys give an unconditional monetary incentive of €5, sometime followed by a promised incentive of €30 in addition to the unconditional one. Examples of non-monetary incentives are calculators or books of stamps offered unconditionally.

However, it is a common practice to offer an incentive only to those households completing the questionnaire. For taking part to the survey, respondents are intended to get a small present, such as a shopping bag or a gift card for stores. Sometimes they are proposed to participate to lotteries (of iPads or other prizes).

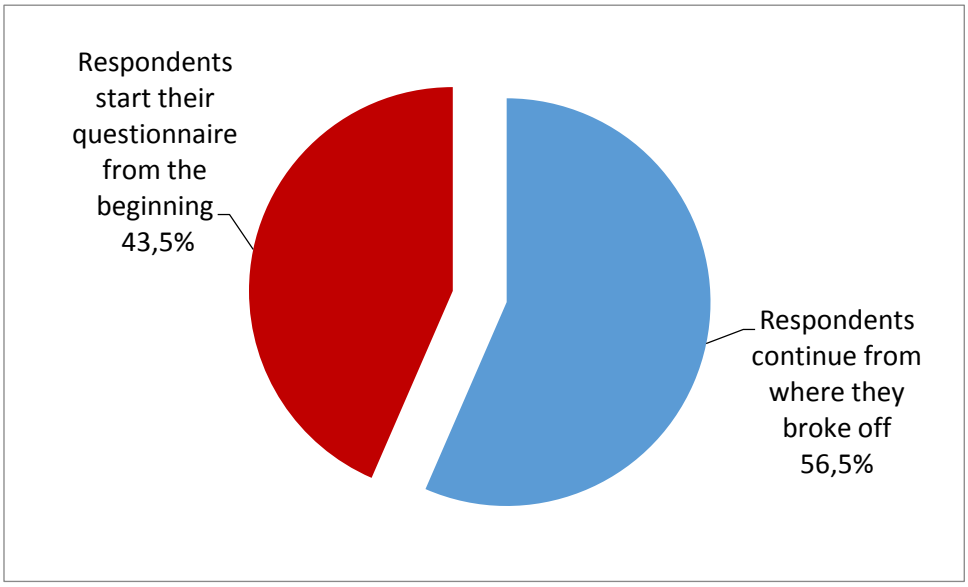
Interesting is also the use of different strategies for specific subgroups. For instance, for EHIS (Germany), younger participants were offered a 10€-voucher after completing the questionnaire. This was done because participation rates in younger age groups are remarkably lower than in older age groups. Older age groups were offered to participate in a lottery (50€-voucher), once the questionnaire was filled out.

3.1.4 The management of break-offs

The management of break-offs[1] is investigated for mixed-mode strategies that include the web mode (23 countries). The focus is on how the compilation of partially answered questionnaires is managed when the mode changes during data collection.

It results that 13 countries out of 23 (56.5 percent) allow respondents to continue filling-out their questionnaire from where they broke off, while for 10 countries (43.5 percent) respondents have to start their questionnaire from the beginning (Figure 4).

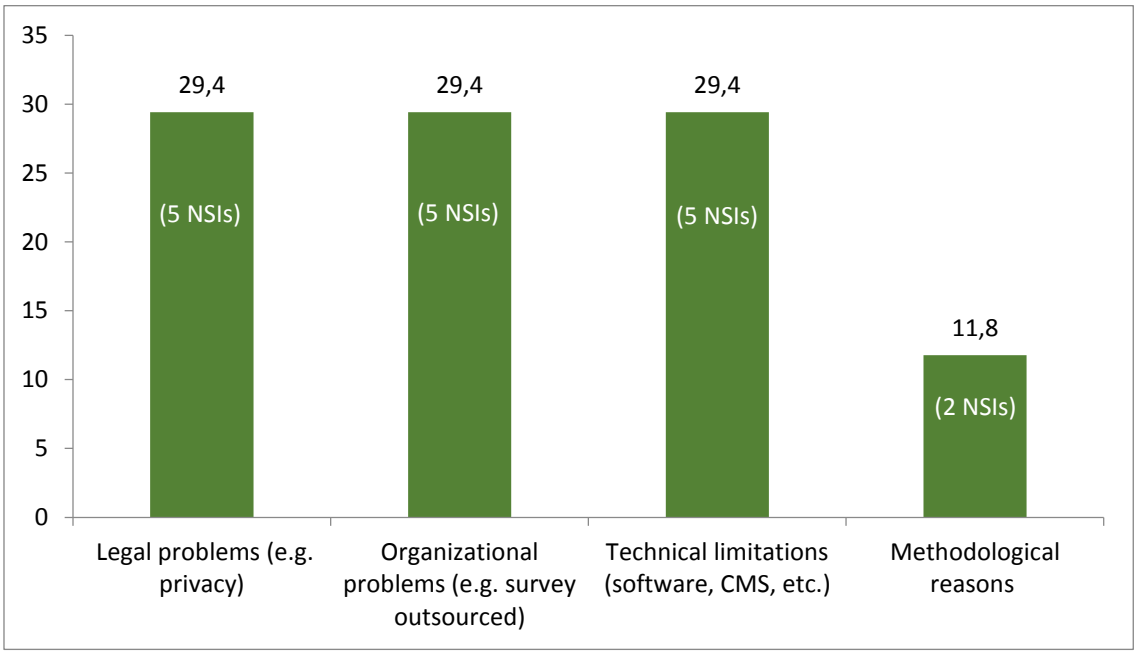
Figure 4. Compilation of questionnaire in case of 'Break-offs'



The choice of making respondents start from the beginning is due to legal or organizational problems, to technical limitations and, with a minor impact, to methodological reasons (Figure 5).

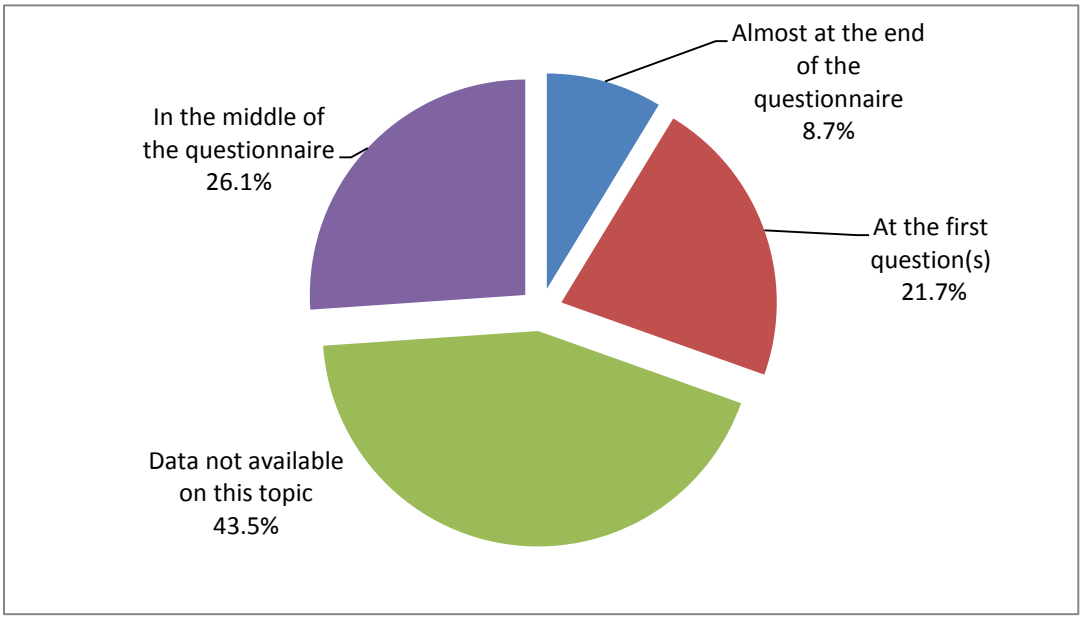
[1] In the survey questionnaire the following definition of 'Break-offs' was provided: 'Break-offs' are partially completed questionnaires, that is when at least one question is answered. Please consider only break-offs where missing values cannot be imputed.

Figure 5. Reasons why questionnaire compilation has to start from the beginning



For what concerns CAWI surveys, break-offs seem to happen more frequently in the middle of the questionnaire (26.1 percent, 6 countries); for 21.7 percent (5 countries) they occur mainly at the first questions and for only 8.7 percent (2 countries) almost at the end of the questionnaire. Anyway, data on this issue are generally not available (43 percent) (Figure 6).

Figure 6. '*Considering web surveys, when would you say that the majority of break-offs happens?*'



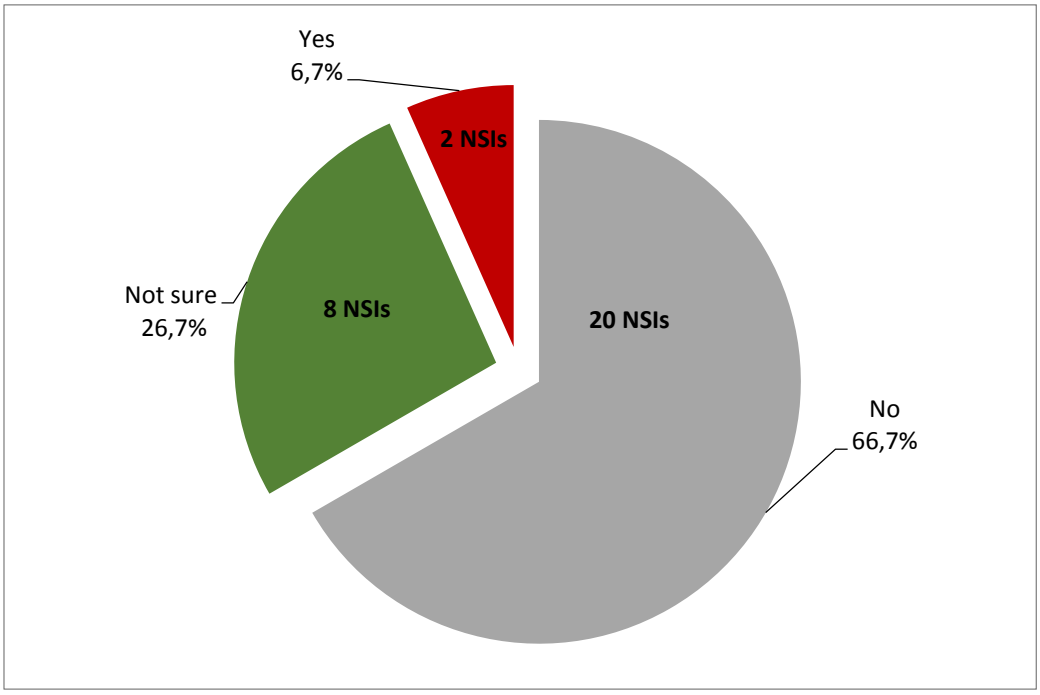
3.1.5 The use of adaptive/responsive designs

One of the aim of WP1 is to investigate on the use of adaptive and responsive designs that represent new approaches to mixed-mode data collection. Particularly, these designs differentiate effort in data collection to different sample units based on available frame data, administrative data and/or paradata recorded during the survey. For example, only some non-respondents to a web survey are targeted for follow-up in CAPI, based on age or on web break-off. This differentiation may be linked to survey modes, but also to other design features, such as timing and number of calls and visits, use of incentives, etc.

As already mentioned, the complexity of this topic make it impossible to investigated it through structured questions. It was then decided to ask for contact details of experts to be contacted later for a personal semi-structured telephone interview on this subject.

The figure below shows that only 2 NSIs (Portugal and The Netherlands) use this approach. Other 8 NSIs declared they were not so sure whether their data collection designs could be 'adaptive' or 'responsive'. This last result confirms how difficult this topic is and that this type of design needs to be further explored (also by contacting these 8 countries through telephone interviews).

Figure 7. The use of adaptive/responsive design in ESS surveys



3.1.6 Mixed-mode data collectiom strategies: advantages and disadvantages, good and bad practices (by Dag F. Gravem)

NSIs were asked to describe their mixed-mode experiences in terms of advantages and disadvantages and of good and best practices they would like to highlight.

A summary of findings is reported here, while a deeper analysis is provided in deliverable 1 of WP4 - *Mixed-mode experiences of European NSIs*.

The main advantages of mixed-mode data collection, mentioned by the 28 NSIs that responded to the question, are the following ones:

- '*cost reduction'*, mentioned by 14 NSIs
- '*improved coverage',* mentioned by 6 NSIs
- '*the ability to adapt to respondents' preferences and convenience*', mentioned by 5 NSIs
- '*increased response rate'* mentioned by 4 NSIs.

Interestingly, one NSI mentioned, as a positive aspect, that using mixed-mode strategies enabled the "*simplification of questions and questionnaires"*.

In terms of disadvantages of mixed-mode data collection, the 28 NSIs mentioned the following ones:

- '*organizational complexity and investments required*' (7 countries)
- '*mode effects* and *measurement error'* (6 countries)
- *'questionnaire development costs'* (4 countries)
- *'poorer coverage* and *reduced response rates'* (2 countries).

One final interesting aspect was '*poorer interviewer motivation'*, due to the fact that the "easiest" respondents participate to online surveys, leaving the more difficult cases to be followed up by interviewers.

Responses to the question on good practices were more singular and more difficult to meaningfully aggregate. Advices were therefore grouped under six main topics listed below. For each topic, few examples are provided while the whole list can be found in deliverable 1 of WP4.

1. **General advices**
   Some examples: G*radually introduce web sample to go mixed-mode*, *measure effects*;
2. **Login and completion assistance**
   Some examples: *Make login as easy as possible*;
3. **Questionnaire development**
   Some examples: *Adapt questionnaires strongly, Ensure smartphone compliance, Modularize questionnaires*;
4. **Communication strategies**
   Some examples: *Find the right communication strategy for each survey, Add a brochure with web completion instructions to your cover letter, Shorten e-mail notifications*;
5. **Data collection organization**
   Some examples: *Use an online first approach, Do CAWI breakoff reclaim directly in CATI, In CAPI/CATI designs, use the same interviewer for the same respondent*;
6. **Technical aspects**
   Some examples: *Monitor servers constantly, Enable restart at breakoff points*;

Regarding bad practices, only the following five were mentioned:

1. Don't send too many reminders
2. Don't send reminders indiscriminately
3. Don't introduce questionnaire differences that can lead to bias and time series breaks
4. Don't underestimate case management and IT infrastructure costs
5. Don't make questionnaires too long

A final opinion asked to NSIs was about the suitability for web mode of each of the nine social surveys investigated.

The findings, reported in Table 17, show that countries consider ICT and the Wave 2 of Labour Force Survey the most suitable (90.3 percent and 83.9 percent) for web data collection, while for the first wave of LFS and EU-Silc other techniques are considered more appropriate.

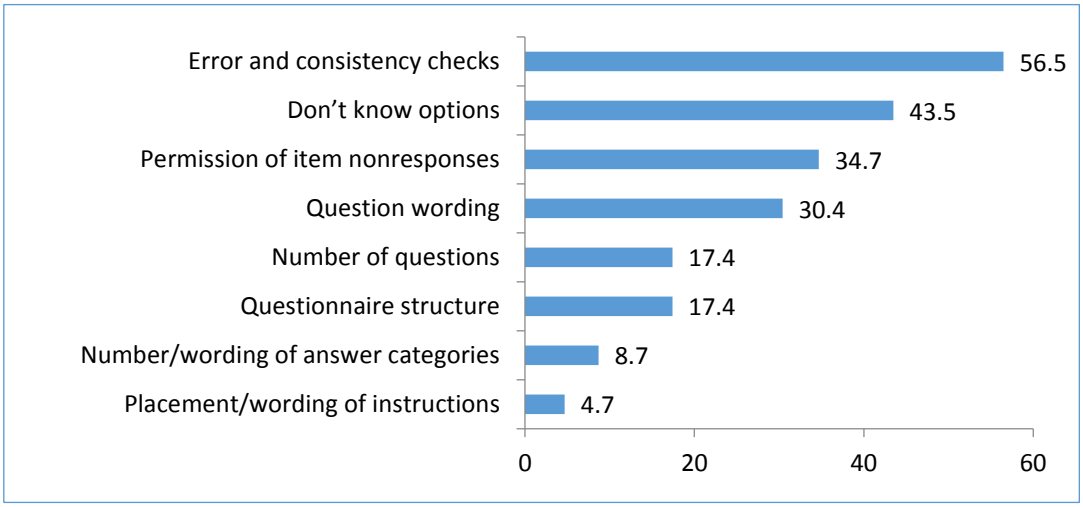
Table 17. Suitability for web data collection, by survey

Survey	Absolute values			Percent values		
	Suitable	Not Suitable	Total countries	Suitable	Not Suitable	Total countries
LFS wave 1	11	20	31	35.5	**64.5**	100.0
LFS wave 2	26	5	31	**83.9**	16.1	100.0
EU-SILC wave 1	12	19	31	38.7	**61.3**	100.0
EU-SILC wave 2	22	9	31	71.0	29.0	100.0
EHIS	21	10	31	67.7	32.3	100.0
AES	24	7	31	77.4	22.6	100.0
ICT	28	3	31	**90.3**	9.7	100.0
HBS	17	14	31	54.8	45.2	100.0
HETUS/TUS	23	8	31	74.2	25.8	100.0
Total	**184**	**85**	**269**	**68.4**	**31.6**	**100.0**

3.2 The impact of mixed-mode and smartphones on questionnaire design

It is well known how the adoption of mixed-mode strategies has a strong impact on survey questionnaire design. This is especially true when the mix contained self-completed and interviewer administered questionnaires. To evaluate this impact, differences among questionnaires of mixed-mode surveys that include the CAWI mode were investigated. Figure 8 shows that the main differences rely on the management of error and consistency checks, on the use of the 'don't know' option, on permission of item non-responses and on questions wording.

Figure 8. Questionnaire characteristics that differ in mixed-mode surveys



Another issue concerning the design of web questionnaire is the use of smartphones, that, in general, is allowed for respondents participating to social surveys, although the questionnaire is not adapted to the medium (Table 18). If the use of 'apps' for social surveys is not a topic of immediate interest for NSIs, pre-testing for multiple devices and multiple browsers is performed for almost the majority of social surveys using the web mode.

Table 18. Adaptation of web questionnaires to smartphones

	Percent values[1]
Profoundly adapted	0
Slightly adapted	7.4
Not adapted, but smartphone are usable	74.1
Smartphones are blocked	18.5
Total	**100**

[1] *Calculated on surveys*

3.3 Methodological and IT support to mixed-mode surveys

It is well known how the adoption of mixed-mode strategies may affect final estimates in terms of mode effect and/or selection effect. This is why the majority of the NSIs (21 out of 31) carried out studies and activities aimed at assessing or adjusting for the above effects in the recent years. Specifically NSIs were involved in activities like (more than one activity could be reported by each NSI):

- pre-tests or experiments on questionnaire design (48% NSIs),
- pilot surveys (42% NSIs),
- evaluation of differences in distributions of socio-demographic or target variables (39% NSIs)
- evaluation of differences in quality indicators (e.g. total or item non response rates, break-off rates, etc.) (35% NSIs).

Until now, only 12 NSIs out of 31 have the need to take some measures to adjust estimates for mode effect and the weight adjustment (for distributions that differ over mode) is the most frequently adopted.

Mixed-mode surveys require IT infrastructures able to manage and support the organisational and technical complexity of the data collection strategies. In fact the majority of NSIs are adapting their IT-system to the new data collections processes or are planning to do it in the next future (Table 19).

Table 19. Adaptation of IT-systems to support mixed-mode data collection processes

Presently NSIs are…	**Absolute values**	**Percent values[1]**
.. in the practical phase of changing our IT-System(s)	10	33.3
… planning to start projects on changing the IT-system(s) within the next two years	6	20.0
… in the concept phase of defining how to change their IT-System(s)	5	16.7
… not working on adaptation of IT-systems because they have just finished major changes on their IT-system(s)	4	13.3
…not working on adaptation of IT-systems for other reasons	5	16.7
Total	**30**	**100**

[1] *Calculated on countries*

4. Conclusions

Mixed-mode strategies can be considered the 'standard' approach to collect data for EU social surveys. Their use has increased in the last five years as well as the use of the CAWI mainly as a component of mixed-mode strategy. Over half of social surveys are carried out through mixed-mode data collection strategy, although the use of a single technique is still high. The main advantage of using mixed-mode strategy is the cost reduction while the main drawback is the organizational complexity and investments it requires. Adaptive and responsive designs are still rarely adopted . They represent a future chance for improving data collection mixed-mode strategies, but need to be further explored.

For what concerns questionnaire design, the *unimode* approach results to be the most used method for mixed-mode surveys. The use of smartphones is, in general, allowed although the questionnaires are not adapted to the medium. The use of 'apps' is not a topic of immediate interest but pre-testing for multiple devices and multiple browsers is performed for almost the majority of social surveys using the web mode.

Methodological and IT support are fundamental for carrying out mixed-mode strategy. That is why NSIs carry out studies and activities to prevent final estimates from mode effect and/or selection effect, and are adapting their IT-systems to the new data collections processes or are planning to do it in the next future.

Acknowledgments

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We also thank all the NSIs which participated to the survey.