**ROMANIA**
Reimbursable Advisory Services Agreement on
Romania Capacity Building for Statistics (P167217)

# OUTPUT No. 6a

# Report on advisory services provided to Recipient on the Recommendations and best practices for implementing a documented system for the modernization of data collection methods for the statistical surveys carried out during inter-census periods collection (CAWI/CAPI) for sample surveys at full scale

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## Acknowledgements

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## Abbreviations and Acronyms

AES          Adult Education Survey

CAPI         Computer-Assisted Personal Interview

CAWI         Computer-Assisted Web Interviewing

CATI         Computer-Assisted Telephone Interviewing

EHIS         European Health Interview Survey

EU-SILC      EU - Statistics on Income and Living Conditions

HBS          Household Budget Survey

ICT          Information Communication Technology Survey

INS          National Institute of Statistics

LFS          Labor Force Survey

PAPI         Pen and Paper Personal Interview

RAS          Reimbursable Advisory Services

TUS          Time Use Survey

WB           World Bank

## Introduction

The purpose of this report is to provide ***recommendations and best practices for implementing a documented system for the modernization of data collection methods for the statistical surveys carried out during inter-census periods collection (CAWI/CAPI) for sample surveys at full scale.*** This is part of the deliverables under the Reimbursable Advisory Services (RAS) Agreement on Romania Capacity Building for Statistics (project no. P167217). The project is implemented by the National Institute of Statistics with support from the World Bank.

This report is divided into four (4) sections.

The first section explains the purpose of the documented system for the inter-census periods providing information about the number of households surveys implemented by INS and requested at EU level, and the need for transforming and redesigning the existing questionnaires into statistical e-questionnaires and use them within modern tools for data collection (e.g., Survey Solutions).

The detailed recommendations for transforming the current questionnaires into statistical e-questionnaires are presented in the second section and describe specifically the ICT questionnaire (ICT usage in households and by individuals), the EU-SILC questionnaire (EU - Statistics on Income and Living Conditions), the AES questionnaire (Adult Education Survey), the LFS questionnaire (Labour Force Survey), the EHIS questionnaire (European Health Interview Survey), the HBS (Household Budget Survey), and the TUS questionnaire (Time Use Survey).

The third section presents a series of final recommendations for practitioners of INS in transforming the questionnaires. The section is completed with general recommendation for the CAWI questionnaire design and multi-mode data collection (CAPI/CAWI).

The annexes complete the report with the transformed questionnaires (links in Designer Survey Solutions are provided for questionnaires prepared by the WB team and INS).

The results of the technical assistance provided through this output should be corroborated and considered a continuation of Output 6e – *Report on two (2) five-day workshops for NIS statisticians in methodologies and tools for transforming questionnaires in intelligent statistical e-questionnaires for the inter-census*", to support the National Institute of Statistics (INS) for developing a documented system for major statistical works during inter-census.

# 1. Purpose of documented system for inter-census periods

INS Romania regularly carries out 7 household surveys with different periodicities – most of them are part of the European Statistical System (ESS). Traditionally, data for all of them were collected through pen and paper (in most of the cases by face-to-face interviews, and for some of them by using a mix of interviewer administered interview and self-administered diary – both on paper) – ranking Romania as one of the last countries in the European Union that uses extensively this data collection mode.

In 2021, a new legal base for household surveys entered into force. Regulation (EU) 2019/1700 of the European Parliament and of the Council of 10 October 2019 establishes. a common framework for European statistics relating to persons and households, based on data at individual level collected from samples, which, in conjunction with implementing this regulation, makes computer-assisted interviewing methods, (be it CAPI, CATI, CAWI) mandatory, except in duly justified cases. Beside this, the adoption of the new legal base resulted in total redesign of some surveys and also encourage survey modularization and harmonization among domains by specifying technical characteristics as regards items common to several datasets in a common regulation.

The introduction of the CAPI collection started already in 2018, for two surveys, but, given the fact that part of the sample continued to be collected by PAPI, both the questionnaire and the organization of the collection did not take full advantage of the new data collection mode.

In this circumstance, it was of utmost importance to:

- transform and redesign the existing questionnaires – for all surveys - into intelligent statistical e-questionnaires – considering the provisions of the new regulations and making full use of the facilities offered by the new system

- have, beside common tools (Survey Solutions), also common guidelines and standards and share common solutions (to the extent allowed by each survey specificities)

Last but not least, INS Romania, like other statistical institutes in European countries, faces the pressure to reduce cost of data collection and declining survey participation rates.  To solve these issues, data collection needs to be approached in a flexible manner, using a mix of data collection modes - of which the CAPI-CAWI mix seems the most promising in terms of both objectives generally targeted by multi-mode collection (cost reduction and increasing response rates).

## 2. Questionnaires of surveys for inter-census period

The analysis of the questionnaires used for the intercensal surveys has looked at their structure, the content of the questions and their purpose in connection with the expected data/variable, sections and variables, commands, expressions, and validation conditions.

For each of the seven questionnaires analyzed the conclusions of the analyses are presented as observations and recommendations, together with proposal for the modification of content in order transform them in e-questionnaires.

### 2.1. ICT (ICT usage in households and by individuals)

The ICT (ICT usage in households and by individuals)[1] questionnaire was developed by the INS in Survey Solutions software and shared with the WB for further review of the questionnaire flow, the accuracy of validation, enabling conditions, and checks on conditional exceptions.

As a result of the ICT questionnaire review recommendations and the questionnaire DRAFT [2] with partly implemented of the most complex modifications and examples on how to fix issues were shared with INS.

Questionnaire review:

Section **" REZULTATUL IDENTIFICĂRII ADRESEI ÎN TEREN"**: (RESULT OF IDENTIFICATION OF THE ADDRESS IN THE FIELD)

1. The variable **"anul_anchetei"** (year of the survey) is not used anywhere else in the questionnaire. If it is not needed in the export file for further data analysis it could be omitted.

2. The variables **"ziua_anchetei"**, **"luna_anchetei"** (day of the survey, month of the survey) are used only for the age calculation. If those variables are not needed in the export file, they could be omitted with the right usage of the question type for the Date of birth question.


Section **"DATE DEMOGRAFICE"**: (DEMOGRAPHIC DATA)

1. Question **"data_n_text"** is implemented as a text question with a pattern, however, the full date is asked. For this case, the Questions type **"Date"** should be used.

2. The variable **"Data_n"** converts the text question **"data_n_text"** with a pattern to the date format, this conversion won't be needed if the date type question would be used instead of the text type.

3. The variable **"Ziua" (** is used only for the age calculation and could be replaced by the proper use of the question type.

4. The expression for the **"Varsta"** is overcomplicated, it could be replaced with the function FullYearsBetween() for 2 dates.

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[1] https://designer.mysurvey.solutions/questionnaire/details/a57cbf6d1a8c4e58b6adf7761ec34df2
[2] https://designer.mysurvey.solutions/questionnaire/details/4cddeb8181394c40b4ea759a4f4dffcb

5. The validation condition #2 for the question **"GR"** could be simplified to **"self == 1? roster_person1.Count(x => x.GR == 1) == 1: true"**.

6. The validation condition #6 for the question **"GR"** is already implemented within validation condition #5, there is no need to do the check again.

7. Validating the age difference between the head and the **"ginere / noră"** (son-in-law / daughter-in-law) could be tricky. Consider including option 5 in validation condition #7, because it could be triggered for exception cases.

8. For the question **"CIVI"** consider having a validation condition that would flag an error if there is a spouse of the head in the HH, but the head's marital status is different from **"Married"**.

9. For the question **"CIVI"** consider setting the validation condition #3 as a warning. A person could be officially married but live separately or the spouse could work for a long time in another country.

10. The enabling condition in **"ULT"** has 2 expressions that check the same situation. Because the question **"PRE"** has only three answer options (1, 2, 3) the condition **"IsAnswered(PRE)"** is the same as **"PRE.InRange(1,3)"** in this case. There is no need to have both expressions which check the same thing.

11. Enabling condition for the **"NIVI"** could be simplified to **"IsAnswered(ULT)"** the **"ULT"** question already has the check **"PRE.InRange(1,3)"** there is no need for repeating it.

12. The Enabling condition for the **"STO"** could be simplified to **"IsAnswered(NIVI)"** if you want to ask the question after the answer was provided to **"NIVI"** which already has all required enabling conditions. For example: if you are referring to a question in an enabling condition of question Q2 with **"IsAnswered(Q1)"**, the current question would inherit the enabling conditions from Q1, otherwise Q1 wouldn't be answered and the condition for Q2 wouldn't work.

13. The Enabling condition for **"AEC"** could be simplified to **"Varsta.InRange(16,74) && STO.InRange(1,6)"**. See the 12 for more details.

14. The Enabling condition for **"DEOC"** could be simplified to **"IsAnswered(AEC)"**. See the 12 for more details.

15. The Enabling condition for **"COOC"** could be simplified to **"IsAnswered(DEOC)"**. Refer to the 12 for more details.

16. The Enabling condition for **"PRO"** could be simplified to **"IsAnswered(DEOC)"**. Refer to the 12 for more details.

17. The Enabling condition for the **"FOPC"**, **"PEIN"**, **"PEPC"** could be simplified.

18. The Enabling condition for the **"FOPC"** is incorrect, please refer to the shared draft for an explanatory example.


Section **"CHESTIONARUL GOSPODĂRIEI"**: HOUSEHOLD QUESTIONNAIRE)

1. The validation condition for the **"CONX"** wouldn't work, the check wouldn't be triggered unless an answer for the question was recorded. The check, if the question is answered, wouldn't work when the question is not answered.

2. For the question **"NEC2"** consider setting the display mode to combo box to not take up the all space on a tablet screen.

Section **"CHESTIONARUL INDIVIDUAL"**: (INDIVIDUAL QUESTIONNAIRE)

1. The enabling condition for the section should be modified. Sign **";"** means the end of the expression, so for this matter having just **" roster_person1.Any(x=>x.PEIN==1)"** is more than enough.

2. The enabling condition for the **"rosterperson2"** could be simplified to **"PEIN==1"** because **"PEIN"** has already all the required conditions implemented within it.

3. Sub-sections **"FOLOSIREA INTERNETULUI"**, **"UTILIZAREA SITE-URILOR AUTORITĂȚILOR PUBLICE"**, **"UTILIZAREA COMERȚULUI PRIN INTERNET"**, **"ABILITĂȚI DE FOLOSIRE A CALCULATORULUI/ INTERNETULUI"**, and **"CONFIDENȚIALITATEA ȘI PROTECȚIA DATELOR PERSONALE"** ("INTERNET USE", "USE OF PUBLIC AUTHORITY SITES", "USE OF INTERNET TRADE", "COMPUTER / INTERNET SKILLS", and "CONFIDENTIALITY AND PRIVACY) don't have any questions inside them. If the main purpose of using them was just to show separation titles, then usage of the static texts is recommended instead. It would be useful to use here the function IsSectionAnswered() for each previous subsection.

4. The validation condition for the sub-section **"UTILIZAREA COMERȚULUI PRIN INTERNET" (USE OF INTERNET TRADE)** and for the questions that should be in it could be simplified to **"INTRA.Contains(3) || IsAnswered(MONF) || DSPA==2"**.

5. The enabling condition for the **"PRIV"** question has the function **"INCS.ContainsAny(1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16)"**, if all answer options are listed inside the function it's more than enough to use function **"IsAnswered()"**, **"IsAnswered(INCS)"** in this case.

6. The enabling condition for the question **"SITE"** could be simplified. Expression **"IsAnswered(PSIN) && PSIN.Contains(17)"**. The part **"PSIN.Contains(17)"** already supposes that the question **"PSIN"** is answered, so there is no need to check that again. So, the part **"IsAnswered(PSIN)"** could be ommitted.

7. The error message for validation #1 in the question **"DEFC"** could be more general, it is not needed to list all answer options. Something like **"The answer option "None" cannot be chosen with others"** could be written instead. Also, the validation condition could be simplified to **"self.ContainsOnly(10) || !self.Contains(10)"** .

8. The validation condition for the **"FINI"** could be simplified to **"self.ContainsOnly(4) || self.Contains(4)"**. The error message doesn't need to include all options' numbers.

9. The enabling condition in the **"FINI"** has the same expression twice **"INPE==1"**. The condition should be modified and one of the doubled expressions could be omitted.

10. The enabling condition for the **"CUMP"** question is incorrect. Should it be asked only if the respondent has not bought anything for the last 3 months? The error is hidden in IsAnswered(FINI) part. Presumably, the question should be active when **"q10> 1"**

11. The enabling condition for **"ABILITĂŢI DE FOLOSIRE A CALCULATORULUI/ INTERNETULUI"** (COMPUTER / INTERNET USE SKILLS) could be simplified.

12. The validation condition for **"ABIL"** should be simplified see the 7.

13. The enabling conditions for the rest of the section should be modified and simplified as mentioned above.

14. The validation condition for the question **"CONF"** see the 7.

15. Consider adding the **"thank you message"** after the GPS question and it should be shown after all questions were answered.

## 2.2.   EU-SILC (EU - Statistics on Income and Living Conditions)

The EU-SILC (EU - Statistics on Income and Living Conditions) questionnaire[3] was developed by the INS in the Survey Solutions software and shared with the WB for further review of the questionnaire overall, the correctness of validation, enabling conditions, and checks on conditional exceptions.

As a result of the SILC questionnaire review recommendations on how to improve the questionnaire and the questionnaire DRAFT [4] with partly implemented the most complex modifications and examples on how to fix issues were shared with INS.

Review of the questionnaire:

The SILC questionnaire was well implemented, the main attention should be paid to conditions, some of them are incorrect, and most of them could be simplified. The most common issue is that the child component has the same enabling condition as its parent, however, the child inherits the enabling condition from the parent and there is no need to have it for the child component again.

Cover page:

1. The cover page should be generated and variable labels specified, otherwise, all checks would work incorrectly.

2. The validation condition for the **"IDGO_preincarcat"** would not work. The check launches when an answer is provided for the question that has it, so having a check that the question should not be null would not work. If you need to implement this check, for example, you could use a variable and a static text. It's not recommended to have a Validation condition without an error message.

Section **" REZULTATUL IDENTIFICĂRII ADRESEI ÎN TEREN"** (RESULT OF IDENTIFICATION OF THE ADDRESS IN THE FIELD)

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[3] https://designer.mysurvey.solutions/questionnaire/details/c4db0ee4655f4d62bb02d99a1185514d
[4] https://designer.mysurvey.solutions/questionnaire/details/87738f41ec8347539acdd378c2115cd8

1. The validation condition for the **"MOBI"** works, however it could be tricky to list all answer options in expressions just to validate one of the answer options in some specific scenarios. Consider usage of a validation condition similar to **"NRS == 18 ? self == 9 : self !=9"** or **"NRS == 18 && self == 9 || NRS != 18"** instead.


Section **" MAPA GOSPODĂRIEI" (HOUSEHOLD MAP)**

1. Question **"IDRA_nume"**, recommended having an Instruction that would explain that **"The respondent must be 16 years old and/or over and be present in the household."**

2. The variable **"HH_head"** is not used anywhere else in the questionnaire, and as it is right now, it would just show the member's name, whose **"Value == 1"** is in the list of members. It is also possible that there wouldn't be a member with a **"Value == 1"** in the list of members. The expression to show the Household head's name is incorrect, please refer to the shared Draft questionnaire for an example of the condition that could be used.

3. The question **"AC_COMP"**:

3.1. There is no difference in the behavior of the roster **"DEMO"**

when the answer for the **"AC_COMP"** is 1 - **"Yes"** or when **"AC_COMP"** is 2 - **"No, new members have come"**. Consider showing a message that would ask to add new members to the list of household members **"PREN"** when there are new members in a household.

3.2. When the **"AC_COMP"** is 3 - **"No, there are people who have left the household"**. Consider displaying the list question **"PREN_GO"** that would ask to list the members who have left the household. And then the roster **"COMP_DIF"** triggered by the list question **"PREN_GO"** appears.

As far as I understand, the members that have left a household should be from the **"PREN"**, otherwise, we would not ask if the list of members has changed since the last year. So, the problem, in this case, is that there is no connection between **"PREN"** and **"PREN_GO"**. If for example, the interviewer/respondent mistype the name we would never figure out which person was that from the list, or if in the **"PREN_GO"** new people were listed who weren't previously listed in the **"PREN"**.

To resolve those issues, instead of having the list question as **"PREN_GO"** consider using the multi-select question linked to the list question **"PREN"**, as the result only members from the original list of members could be selected as the ones who have left the household.

3.4. After changing the type of the **"PREN_GO"** to the linked multi-select question, the roster **"COMP_DIF"** would not have the question **"PREN_GO"** as the source of the roster, because a linked multi-select question cannot be used as a source question for a roster. For that reason, the roster **"COMP_DIF"** should have the list of members of the household **"PREN"** as a source question AND have the enabling condition **"PREN_GO.Contains(@rowcode)"** which means that the roster would be active only for members who were chosen as people who have left the household in the question **"PREN_GO"**.

4. Should the roster **"DEMO"** be active for the people who have left the household? If the person was on the list of members before but has left the household do you need to still collect the information about that person? If **"No"**, the roster **"DEMO"** should have the expression

**"!PREN_GO.Contains(@rowcode)"** as part of its enabling condition:

"IsAnswered(IDRA_nume) && (NRS==18 || (NRS.InList(15,16,17) && AC_COMP.InList(1,2)) || (NRS.InList(15,16,17) && AC_COMP==3 && !PREN_GO.Contains(@rowcode)))"

5. When a question asks for a full date it's more convenient to use the appropriate question type, in this case, it's a **"Date type question"**.

5.1. There would be no need to have the validation condition #1 in the question **"data_n_text"** if it would be the Date type question.

5.2. Validation condition #4 does not work correctly for the current date. The validation conditions #4, #3 could be replaced with one condition **"data_1 >= data_n_text"** and the error message similar to: **"The day of birth cannot be in the future"**.

6. The variable **"data_n"** could be omitted if the question **"data_n_text"** would be the Date type question.

7. The expression for the **"varsta"** (age) could be replaced with the function **"FullYearsBetween(dateA, dateB)"**. The expression that is there right now wouldn't be accurate in the case when the survey takes place in the same month as a member's birthday month.

8. Variable **"aniv"** is not used anywhere else in the questionnaire, if you don't need it in the export file it should be omitted.

9. The expression for the variable **"durata_rez"** could be simplified. Function **"FullYearsBetween(data_AMM,data_1)"** should be used instead.

10. It's a bad practice to leave variables without variable labels. Variable **"CHHSPOU","CHHSPOU"**, and **"CHHMOTH"**. Please specify variable labels for them.

11. It seems that variables **"CHHSPOU","CHHSPOU"**, and **"CHHMOTH"** should contain names, expressions similar to: **"HHMOTH >0 ? PREN.FirstOrDefault(x=>x.Value==HHMOTH).Text : " - " "** should be used.

12. The static text in the **"RELATII"** roster, which displays the Mother, father, and spouse for the current member should show names instead of numbers, or both. Also, consider having this static text outside of the roster **"RELATII"**, otherwise, the static text is shown in each roster.

13. Consider adding a filter to the conditions which would filter out the people who are not part of the household anymore **"(AC_COMP==3 && !PREN_GO.Contains(@rowcode) || AC_COMP!=3)"**.


Section **"CHESTIONARUL GOSPODĂRIEI" (HOUSEHOLD QUESTIONNAIRE)**

1. Is there a reason why the calculation of members of a certain age in variables **"copii_13/16/18"** were different variables used ( **"varsta"** and **"varsta2020"**) shouldn't it be the same for all cases?

2. The enabling condition for the sub-section **"SUPRAVEGHEREA COPIILOR"** could be simplified. Because of the expression part **"copii_13>0"** there is no need to have **"DEMO.Any(x=>x.PR.InList(1,2) && x.varsta<13)"** again, first part already has the second

check within it. For that reason the enabling condition could be simplified to **"copii_13>0 && IsAnswered(data_2)"**

3. All components within a sub-section/section inherit the enabling conditions of the parent section/sub-section. There is no need to duplicate the enabling condition of the sub-section **"SUPRAVEGHEREA COPIILOR"** (CHILD SURVEILLANCE) (**"DEMO.Any(x=>x.PR.InList(1,2) && x.varsta<13) && copii_13>0 && IsAnswered(data_2)"**) to components inside it. The repeated parts of enabling conditions for the static text, questions **"COPL"**, and **"cop_supr"** could be omitted.

4. For the question **"cop_supr"** consider having a filter by age **"DEMO[@optioncode].varsta <= 13"**

5. The enabling condition for the sub-section **"SĂNĂTATEA COPIILOR" (CHILDREN 'S HEALTH)** could be simplified. The expression **"DEMO.Any(x=>x.PR.InList(1,2) && x.varsta2020<16)"** is already implemented within the **"copii_16>0"** and **"copii_13>0"** parts.

6. The question **"QA"** has the question scope hidden and has an enabling condition, but it's not used in any other questions' conditions.

7. The enabling condition of the question **"CCMS"** is the same as its parent's, for that reason, it could be omitted.

8. For the question **"snt_cop"** consider having the age filter. See the 4. There is no need to duplicate the part of the enabling condition which already implemented within its parent (**"DEMO.Any(x=>x.varsta2020<16 && x.PR.InList(1,2))"**). The question could be omitted if the roster **"SANATATE"** would have the enabling condition that would make the roster available only for kids.

9. Sub-section **"ACOPERIREA UNOR NEVOI MATERIALE ŞI ACTIVITĂŢI RECREATIVE ALE COPIILOR (între 0 - 15 ani)"** (COVERING SOME MATERIAL NEEDS AND RECREATIONAL ACTIVITIES OF CHILDREN (between 0 - 15 years old). The part **" IsAnswered(snt_cop)"** in the enabling condition of the section could work in a wrong way for some scenarios, consider using expression **"IsSectionAnswered(previousSeclionVarName) && EnabledAnsweredQuestionsCount(previousSeclionVarName)>=1"** instead.

10. The **"NV1"** has the same enabling condition as its parent, for that reason it could be omitted.

12. The question **"EXIN"** has the same enabling condition as its parent component, for that reason it could be omitted.

13. The enabling condition for the **"EXIN_da"** is overcomplicated.

13.1. Enabling condition part **"EXIN==1"** enables the question **"EXIN_da"** only if at least one child has both parents in the household, however, the question **"EXIN_da,"** itself asks about kids who live with both or only with one parent in the household. So, it should have the enabling condition **"IsAnswered(EXIN)"** instead.

13.2 The part **"copii_18>0"** of the enabling condition is the same as the check **"DEMO.Any(x=>x.varsta<18)"**, there is no need to have both conditions that check the same thing.

13.3. Enabling condition part:

**"DEMO.Any(x=>x.varsta<18 && x.PR != 3 &&**

**((x.HHFATH>0 && x.HHMOTH==0) ||**          **// select the kid only with father**

**(x.HHFATH==0 && x.HHMOTH>0) ||**          **// select the kid only with mother**

**(x.HHFATH==0 && x.HHMOTH==0) ||**         **// select the kid with no parents**

**(x.HHFATH>0 && x.HHMOTH>0)))"**         // select the kid with both parents.

The question text or its condition should be modified according to the current needs.

14. The enabling condition for the question **"BU1"** and the static text above it could be omitted because it's already implemented within the parent's condition.

15. The **"SAVI"** question has the same enabling condition as its parent, for that reason, it could be omitted.

16. The enabling condition for the sub-section **"PETRECEREA TIMPULUI ALĂTURI DE COPIII AFLAȚI ÎN GOSPODĂRIE SAU ÎN AFARA EI"** (SPENDING TIME WITH CHILDREN IN THE HOUSEHOLD OR OUTSIDE IT) should be modified to **"IsSectionAnswered(bunastare) &&**

**EnabledAnsweredQuestionsCount(bunastare)>=1 && DEMO.Any(x=> x.varsta<18 && IsAnswered(x.PR) && @rowcode==x.HHFATH || @rowcode==x.HHMOTH))"**

17. The question **"COPG"** has a question scope hidden, is it supposed to be preloaded? What about if the household has a newborn child which wasn't listed in the previous survey. Suggested having a variable instead, which would calculate if there are kids in age from 0 to 17 in the household.

18. In the question **"TMCG"** in the enabling condition there is no need in using the part **"IsAnswered(SIFI) && copii_18>0 && "**, because it is already implemented within its parent.

19. The question **"COPA"** has a question scope hidden. Is it going to be preloaded? If yes, - it's not used in any of the conditions. Consider having a Variable that would calculate the asked value based on the current answers instead of having this question.

20. In the enabling condition for the **"TMCA"** consider excluding the part that is the same with the parent condition and simplify the second part of the condition by omitting parts that do the same checks. For example **"@rowcode==x.HHFATH"** already means that **"x.HHFATH>0"**. The final condition could look like this **"DEMO.Any(x=>x.varsta<18 && x.PR==3 && ((x.HHMOTH==0 && @rowcode==x.HHFATH) || (x.HHFATH==0 && @rowcode==x.HHMOTH)))"**

21. The question **"STAO"** has the same enabling condition as its parent, it could be omitted.

22. The enabling condition for the **"NR_LUNI"** (No of Months) could be omitted because it duplicates the condition of its parent. The validation condition for the question doesn't have an error message.

23. The validation conditions for the **"LUNA_STATUT"** (Month Statute):

23.1. The validation #1 could be simplified. A validation condition for any question launches when the question is answered, there is no need to have a check **"IsAnswered(SELF)"**, for that

reason the part **"IsAnswered(LUNA_STATUT)"** for the question **"LUNA_STATUT"** could be omitted, and validation condition #1 could be simplified to **"LUNA_STATUT.Count() == NR_LUNI"**

23.2. The validations from 2 to 10. For those validations part which checks on null **"x.LUNA_STATUT != null"** could be omitted, because you are also checking that the question has a particular answer option **"x.LUNA_STATUT.Contains(8)"** so by doing that you are excluding the possibility of having the null.

23.3. The validation condition #10 as it is right now does not work correctly. For example: if earlier was selected November, but now I select October AND November, the error would not be shown but it should have. To fix these issues, the condition should be modified to:

**"(self.Contains(9) ?ROSTER_STATUT.Count(x=>x.@rowcode < @rowcode &&**

**x.LUNA_STATUT.Contains(9)) == 0 : true) && (self.Contains(10) ? ROSTER_STATUT.Count(x=>x.@rowcode < @rowcode && x.LUNA_STATUT.Contains(10)) == 0 : true) && (self.Contains(11)?**

**ROSTER_STATUT.Count(x=>x.@rowcode < @rowcode && x.LUNA_STATUT.Contains(11)) == 0 : true ) && (self.Contains(12)? ROSTER_STATUT.Count(x=>x.@rowcode < @rowcode && x.LUNA_STATUT.Contains(12)) == 0 : true )"**

24. Variables **"statut_ "**. It is a bad practice to have Variables without Variable labels. If those variables are not needed in the export file, the **"do not export"** checkbox should be checked. The expressions could be simplified to **"ROSTER_STATUT[ROSTER_STATUT.FirstOrDefault(x=>x.@rowcode < @rowcode && x.LUNA_STATUT.Contains(optionNumber)).@rowcode].rowname"**.

25. The validation condition for the static text above the question **"SOME"** does not include exceptions here is why error messages are shown before the question **"stat_ocup"** is answered.

25.1. The static text should be shown only when the conditions are not met.

25.2. The validation condition #1 doesn't include exceptions, and it should be simplified to **"check_luni > 0 && check_luni == 12 || check_luni == 0"**

25.3. The validation condition #2 should have an error message which would explain why the error appears.

26. In the enabling condition for the **"SOME"** part **"x.LUNA_STATUT.ContainsAny(1,2,3,4,5,6,7,8,9,10,11,12)"** could be replaced with **"IsAnswered(x.LUNA_STATUT)"** because there are all the options already listed. The **"ROSTER_STATUT.Any..."** should be replaced with **"ROSTER_STATUT.All..."** because the question needed to be active when answers for all statuses rosters were provided. Please check if you correctly use **"varsta2020"** instead of **"varsta"**.

The enabling condition could be modified to **"ROSTER_STATUT.All(x=>IsAnswered(x.LUNA_STATUT)) && varsta2020.InRange(16,74)"**. Also, consider having a validation condition for this question, which would check if the status **"Unemployed"** was selected in **"stat_ocup"** then **"SOME"** should be **"Yes"**.

27. The enabling condition for the sub-section **"TRANSFERURI BĂNEȘTI" (MONEY TRANSFERS)** could be simplified to **"IsSectionAnswered(activitaEcon) && EnabledAnsweredQuestionsCount(activitaEcon)>=1"**

28. The question **"IMPO"** has the same enabling condition as its parent, because of that reason it could be omitted.

30. The enabling condition for the **"VEIN"** could be omitted because it's identical to the parent's condition.

31. There is no need to have Variable **"imp1_long"** which is used in **"imp1_s"** instead **"imp1"** could be used.

32. The rosters **"TYPE_INC1/2/4/5/6/7"**, do not need to have a check if the question trigger is answered, if the question would not be answered, the roster would not be triggered.

33. The enabling conditions for rosters **"TYPE_INC3_1/2"** do not need to have **"IsAnswered()"** checks, they already check for the specific answer option.

## 2.3. AES (Adult Education Survey)

The AES (Adult Education Survey) questionnaire [5]was at the final stage of development in Survey Solutions software when it was shared by INS with the WB. Help with the implementation of a random selection of household members was provided. Afterward, the questionnaire was reviewed for the correctness of validation, enabling conditions, checks on conditional exceptions, and questionnaire flow overall.

As a result of the AES questionnaire review recommendations on improving the questionnaire and fixing issue, and the questionnaire DRAFT [6] with partly implemented the most complex modifications were shared with INS for explanatory example purposes.

Review of the questionnaire:

Cover page:

1. The question **"REFWEEK"** has a substitution for a variable in the error message. Be aware that variables are not in a translation file in case you want to have this questionnaire implemented in several languages.

Section **"S1. ADMINISTRATIVE INFORMATION FOR THE INTERVIEWER"**

1. There are variables that most likely should not be in the export file.

Consider using the **"Do not export"** feature for **"CZFMAX"**, **"OP_INST"**, **"OP_INFO"**, **"OP_CITI"**, **"CREFMONTH_1"**, and **"eroare_refweek"**.

Be aware that Variables **"OP_"** will not be in a translation file and cannot be translated.

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[5] https://designer.mysurvey.solutions/questionnaire/details/ea0d713a116f4743b213dd4909b5a7ca
[6] https://designer.mysurvey.solutions/questionnaire/details/9ef816ac1c93439a9d95fd80bcd3f2d1

Section **"S4. HOUSEHOLD COMPONENT"**

1. Consider having an enabling condition for the question **"NUME"** instead of having validation condition #3. The other way to implement validation condition #3 is **"IsAnswered(MARGOSP)"**. The suggested modification you could find in the shared draft.

2. Consider using the **"Do not export"** feature for  **"MARGOSP_CALC"**, and **"MARGOSP_DIF"** in case it's not needed in the export file.


Section **"S5. DEMOGRAFIC DATA ON  HOUSEHOLD MEMBERS"**

1. Consider having the validation condition **"AGE.InRange(0,105)"** instead of validation condition  #2 for the **"CDATEBIR"**.

2. The validation condition #4 for the **"CDATEBIR"** would not work correctly, because it relies on the numeric order in the list question. Please check the draft for an example of the correct implementation for this condition.

3. Because the question **"PREZ_2motiv"** is enabled only when **"PREZ_1 == 2"** the filter for this question is filtering out only the answer option **"0"** which is not in the list of answer options. There is no need to have this filter.

4. Because the question **"PREZ_3motiv"** is enabled only when **"PREZ_1 == 3"** the filter for this question is always filtering out only the answer option **"5"**. There is no need to have the filter and the answer option #5 could be just removed from the list of options.

5. Because of points 3.3, and 3.5. the variable **"FILTRU_motiv"** could be omitted.

6. The VC #1 for the **"PREZ_2loc"** would not work correctly because it relies on the numeric order in the list question. The suggested modification you could find in the shared draft.

Consider showing the error message for cases when the household head lives for a long time abroad, and when in another locality in the country out of the household.

7. If variables **"FILTRU_alte"**, and **"FILTRU_motiv"** are not needed in the export file, consider using the **"Do not export"** feature.

8. The value of the variable **"AGE"** would be more accurate if the date of the interview (**"DATA_S4"**) would be used as the reference point instead of **"ZFS"**. The expression could be simplified by using the function **"FullYearsBetween(DATEBIR, DATA_S4)"**. Please see the example in the draft.

9. If the variable **"DATAREF"** is used only for calculations and not needed in the export file, consider not exporting it.

10. The expression for the variable **"PASSBIR"** is confusing, two different variables are used to calculate this value.

Please see the suggested expression that calculates if the birthday was before, after, or within the reference week in the draft.

11. The enabling condition for the sub-section **"S7.2 RELATIONSHIP RELATIONS"** would not work correctly because it relies on the numeric order in the list question (**"NUME"**). Please, see the suggested solution in the draft.

12. The validation condition #2 for the **"RUDE"** should check for the age difference between spouses for both spouses. See the example in the shared draft.

13. The Error messages for validation conditions #5, and #6 for the question **"RUDE"**, should explain that siblings and half-siblings should have the same parent/stepparent.

The expressions should include exceptions for cases when one of the parents was reported at the end of the list of members. See the suggested solutions in the shared draft.

14. The error messages for the parent's spouse implemented as a static text in the sub-section **"S7.2 RELATIONSHIP RELATIONS"** should also include exceptions when the second parent is listed at the end of the member's list. The error message itself should show the member's name, and not the **"rowcode"** only. See the suggested solution in the shared draft.

15. The variable **"CHHSPOU"** shows the name of the spouse/partner regardless of gender, supposedly there is an error in the translation. The expression would not work correctly, because it relies on the numeric order in the list question. See the suggested solution in the shared draft.

16. The expressions in variables **"CHHMOTH"**, **"CHHFATH"**, **"CHHMOTHSPOU"**, and **"CHHFATHSPOU"** would not work correctly, because they rely on the numeric order in the list question, please see the suggested solution in the shared draft.

17. If variables **"CREZIDENT"**, **"CHHMOTH"**, **"CHHFATH"**, **"CHHMOTHSPOU"**, and **"CHHFATHSPOU"** are not needed to be in the export file, consider using the **"Do not export"** feature.


Section **"S6. ADDITIONAL INFORMATION ON HOUSEHOLD MEMBERS"**

1. The random selection of 2 people was implemented for the roster **"NRP1"** as enabling condition please refer to the shared draft.

2. A static text that shows the number of eligible members and shows their names is recommended, please see the shared draft.

3. Suggested variables:

- The **"numEligible"** calculates the number of eligible members in a household;

- The **"RND_Names"** extracts the names of 2 randomly selected members;

- The **"RND_Codes"** - extracts their codes;

- The **"rndCurrentCode"** extracts the code of the current member of a roster;

- The **"rndCurrentName"** extracts the current member's name.

Please see the implementation in the shared draft.

Consider keeping those variables if they could be useful for you, remove them if you don't need them, or set them to **"Do not export"**.

Those Variables do not take part in the actual random selection and are recommended for export and information display to an interviewer.

4. The enabling condition for the sub-section **"EDUCATION GRADUATED"** could be omitted because the eligible randomly selected member is in the age range from 18 to 69. The suggested modification you could find in the shared draft.

5. Considering the eligible member's age range (18-69) enabling and validation conditions for questions:

**"HATLEVEL_1"** - enabling condition could be simplified,

**"HATLEVEL_4"** - validation condition could be omitted,

**"HATLEVEL_7"** - validation condition could be omitted,

**"HATLEVEL_8"** - enabling condition could be simplified,

**"HATLEVEL_9"** - validation condition could be omitted.

The suggested modifications you could find in the shared draft.

6. In questions **"HATFIELD2"**, and **"HATFIELD1"** for validation condition #2 recommended changing the **"Error message"** to the one, that would explain that abbreviations are not allowed, otherwise it could be confusing for an interviewer.


Section **"S7. INDIVIDUAL DATA"**

1. The enabling condition for the section **"S7. INDIVIDUAL DATA"** could be simplified. The part of expression **"IsAnswered(NUME) && MARGOSP == MARGOSP_CALC"** is already implemented within the part **"NRP0.Count(x => x.AGE.InRange(18, 69) && x.REZIDENT == 1) > 0 "**. The first part could be omitted.

2. Consider having an enabling condition for the question **"JOBTIME"**. If a respondent answered, **"No"** for the **"EMP12M"** question then the question **"JOBTIME"** should be disabled. Validation condition #2 for this question is incorrect, it checks that the year of employment is prior to the birth year. Please refer to the draft for the example of implementation.

3. The enabling condition for the question **"GUIDESOURCE"** is most likely incorrect. The question should be active when at least one of the questions **"GUIDE_1 - …. _3"** was answered – **"Yes"**. Please refer to the draft for the explanation.

4. Consider having a single-select question with a list of months instead of the numeric question with validation condition for the **"FEDSTARTMONTH"**.

5. For questions **"FEDREASON"**, **"FEDPAIDBY"** consider using different expressions in the validation condition that would be more efficient. Please see the shared draft.

6. The question **"FEDREASON"** should not have answer options **"None of the items above"** and **"Other (please specify)"** joined together in answer option #10. It should be 2 different answer options, or only **"Other (please specify)"**. Usually the answer option **"Other (please specify)"** is allowed for selection with other answer options.

7. The question **"FEDREASON_10"** triggered by selecting answer option #10 from the question **"FEDREASON"** could be confusing because answer option #10 contains 2 different answers joined together.

8. Consider having the answer option **"Other (please specify)"** for the question **"FEDREASONMAIN"**, the filter question has it.

9. For the question **"FEDOUTCOME"** consider having a validation condition that would check that there were no other options selected with the option **"No outcome yet"**. Please see the shared draft.

10. Based on the question text of the question **"FEDOUTCOMEMAIN"** consider having a filter for this question instead of having the validation condition. Enabling condition for the question should be modified, the question should be disabled when **"FEDOUTCOME"** contains only the answer **"No outcome yet"**. Please see the implementation in the shared draft.

11. The sub-section **"Elementary job characteristics"** should have an enabling condition, otherwise, the section would be active with no questions to ask. Please see the shared draft.

12. The enabling condition for the **"FTPT"** should be modified. The question should not be asked if the member did not work for the last 12 months (**"EMP12M == 2"**). Please see the shared draft.

13. The sub-sections **"Duration of contract"**, **"Establishment size"** are missing enabling conditions. They should be active only if **"EMP12M == 1"**

14. Sub-sections:

- **"The most recent formal education activity"**;

- **"Use of information and communication technologies in most recent formal education activity"**;

- **"Reasons for participating in the most recent formal education activity"**;

- **"Most recent formal education activity – details (12 months)"**;

- **"Payment and hours of most recent formal education (12 months)"**;

- **"Outcomes and use of skills from most recent formal education"**;

 are missing EC.

These sub-sections should be active when the question **"FED"** contains any **"yes"** answer for any of its options. Otherwise, questions about non-existing formal educational activities would be asked. Please see the suggested implementation in the shared draft.

15. Based on the discussion following questions **"NFE_COURSE_NAME"**, **"NFE_WORKSHOP_NAME"**, **"NFE_WORKSHOP_NAME"**, **"NFE_GUIDEDJT_NAME"**, and **"NFE_LESSON_NAME"** were joined to one **"NFE_NAME"** for implementation of random selection. The **"Max number"** of answers was limited to **"60"**. Please see the implementation in the shared draft.

16. To implement the random selection of 5 activities from the list **"NFE_NAME"** the roster **"NFE_activityRoster"** was created with enabling condition. Questions **"NFEACTxx_TYPE"**, **"NFEACTxx_MAINSTAT"**, **"NFEACTxx_PURP"**, **"NFEACTxx_WORKTIME"**, and **"NFEACTxx_PAIDBY"** were moved into the roster.

Please see the example of implementation in the shared draft.

17. The question **"NFEACTxx_NAME"**, should be replaced with the variable **"rndCurrentActivName"**, because we already know this information and want to avoid asking a respondent to retype the activity name again. This variable extracts the name of the current activity.

18. Created 2 static texts, that show the information about randomly selected activities inside and outside of the roster, please see the shared draft.

19. Following variables are recommended:

- The **"rndCurrentActivCode"** – extracts the code of the current randomly selected activity.

- The **"NFE_rnd_Names"** calculates the names of all randomly selected activities.

- The **"NFE_rnd_Codes"** calculates codes of all randomly selected activities.

Please see the implementation in the shared draft.

Those Variables do not take part in the actual random selection and were created for export purposes and to display information to an interviewer.

20. To implement a random selection of 2 activities from 5 randomly selected activities the roster **"NFE_detailed_activityRoster"** with enabling condition was created. Questions starting from **"NFERAND1"** to **"NFEUSEA1"** were moved inside the roster. Please see the implementation in the shared draft.

21. Consider adding variables:

- The **"NFE_rnd_Names_2"** calculates all names of randomly selected activities (2),

- The **"NFE_rnd_Codes_2"** calculates all the codes of selected activities.

Please see the implementation in the shared draft.

Those Variables do not take part in the actual random selection and were created for export purposes and to display the information to an interviewer. 22. Consider adding 2 static texts, that would show the information about 2 randomly selected activities inside and outside of the roster **"NFE_detailed_activityRoster"**. See the example in the shared draft.

23. The question **"NFERAND1_NAME"**, should be replaced with the variable **"rndCurrentActivName2"** which extracts the name of the current activity, to avoid asking to retype the same information several times. See the shared draft.

24. The question **"NFERAND1"** should be replaced with the variable **"rndCurrentActivCode"** which extracts the code of the current activity. See the shared draft.

25. The question **"NFERAND1_TYPE"** should be replaced with the variable **"rndCurrentActivType"** which corresponds to the code of the activity type from the question **"NFEACTxx_TYPE"**. See the shared draft.

26. The substitution **"%NFEACTxx_NAME%"** for questions **"NFEACTxx_ ..."** should be replaced with **"rostertitle"**. See the shared draft.

27. In questions from **"NFERAND1"** to **"NFEUSEA1"** the substitution **"%NFERAND1_NAME%"** should be replaced with **"rostertitle"**.

28. The enabling condition from the **"NFEFIELD1"** should be removed, the reference question was replaced with a variable. Please refer to the shared draft.

29. The sub-section **"NON-FORMAL EDUCATION ACTIVITIES – DETAILS"** is missing an enabling condition, it should be active if at least one answer for questions **"NFECOURSE"**, **"NFEWORKSHOP"**, **"NFEGUIDEDJT"**, and **"NFELESSON"** is **"Yes"**. Please see the shared draft.

30. Based on the question text of the **"NFEREASONMAIN1"** consider having a filter for this question instead of having a validation condition. Enabling condition for the question should be modified, the question should be disabled when **"NFEREASON1"** contains only the answer **"None of the items above"**. Please see the shared draft.

31. For the question **"NFEREASON1"** consider having a validation condition that would check that there were no selected other options with the option **"None of the items above"**. Please see the shared draft.

32. For the question **"NFEPAIDBY1"** consider modifying the validation condition with a more efficient one. See the implementation in the shared draft.

33. For questions **"DIFFTYPE_A"**, **"DIFFTYPE_B"** consider having VC which would check that option **"None of the items above"** was not selected among the others.

34. The sub-section **"REASONS FOR PARTICIPATING IN NON-FORMAL EDUCATION ACTIVITIES"** should have the same enabling condition as its child, otherwise, the sub-section would be enabled with no questions to ask within it. See the shared draft.

35. Enabling condition for the **"NFEINITIA1"** could be simplified, the major part of the expression is already implemented within the parent roster. Please see the shared draft.

36. The sub-section **"Obstacles to participation in education and training"** is missing an enabling condition. It should be active when questions about educational activities were answered. Please see the implementation in the shared draft.

37. The question **"WANT_A"** is missing an enabling condition, it should be active only when a member participated in formal or non-formal educational activities. Please see the shared draft.

38. The question **"WANT_B"** is missing an enabling condition, it should be active only when a member has not participated in any formal or non-formal educational activities. Please see the shared draft.

39. The question **"LANGMOTH2"** asks about the second mother tongue. But what if the person has only one? Consider having an additional question about having the second mother tongue or having the answer option **"NONE"** for the question **"LANGMOTH2"**.

40. The sub-section **"Total monthly household income"** asks about the total monthly household income among all members of the household, and because of that consider moving it out of the member's roster. And consider adding instruction that the most knowledgeable member of the household about household income should provide answers for this sub-section.

41. The question **"LANGUSED"** should have a warning that the entered number of languages should be in a range from **"0"** to **"7"**.

## 2.4.  LFS (Labour Force Survey)

The LFS (Labor Force Survey) questionnaire[7] was developed in Romanian language by the INS in Survey Solutions software and shared with the WB for further review of the questionnaire overall, the correctness of validation, enabling conditions, and checks on conditional exceptions.

As a result of the LFS questionnaire review recommendations on improving the questionnaire, and the questionnaire DRAFT [8] with partly implemented most complex modifications were shared with INS for explanatory example purposes.

Review of the questionnaire:

The LFS questionnaire was well implemented, and only a few small issues were found which could impact the data collection.

Cover:

1. The **"COVER"** page of the **"AMIGO21_IUNIE"** should be regenerated. That should be done for correct work of validation conditions for identifying questions that the cover page contains.  Variable labels for all questions in the Cover section should be specified.

2. The validation condition for the **"NRCL"** could be simplified to

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[7] https://designer.mysurvey.solutions/questionnaire/details/0baeb92129564cafbfa67d2c38f63cac
[8] https://designer.mysurvey.solutions/questionnaire/details/f8fb25deea664dac9421cdc33f6656bb

**"(EXISTA_PREC_GOSP == 3 && self > 1) || EXISTA_PREC_GOSP != 3"**

or **"EXISTA_PREC_GOSP == 3 ? self > 1 : true"**


Section 2.

1. **"Section 2"** has 12 variables should if not all of them need to be in the export file, consider the possibility of using **"do not export"** feature.

2. Variable **"REFYEAR"** is not used anywhere else, if it's not needed in the export file consider using **"do not export"** feature.


Section 7.

1. The question CDATEBIR asks about the full date of birth, consider using the **"Date type question"** instead of the text question with a pattern.

2. The validation condition #4 for the **"CDATEBIR"** would not work correctly.
The list question does not always have items in strict numerical order (it could be 4, 7, 12, 13 and e.c.), and because of that, you should never rely on numeric order in your conditions, otherwise, they wouldn't work correctly. The validation condition #4 should be fixed.
For this particular case you could use expression: **"@rowcode == CAPGOSP.Value ? AGE >= 15: true"**.

3. The validation condition #1 for the **"MO"** would not work correctly. Refer to the shared draft.

4. Validation conditions #5 and #6 in the **"RUDE"** question are too specific, an interviewer would get an error in the case of half-siblings in a family. Validations should be removed, and modified for those cases, or instructions for the question should be added.

5. The error messages for the static texts **"(Eroare: Sotia tatalui/Eroare: Sotul mamei)"** should display the members' names not the **"NRP"** codes of those people from the roster.

6. Variables **"CHHMOTHSPOU",**" CHHMOTH", **"CHHFATH"**, **"CHHSPOU"**, and **"CHHFATHSPOU"** would not work correctly. Please refer to the shared draft.

7. Consider using the type **"long integer"** for variables that have as the result @rowcodes instead of using **"double"**. By doing that you won't need to convert them later.

8. The variable **"HHLINK"** would not work correctly please refer to the shared draft.


Section 9.

1. Consider in the future having questions in numerical order for the entire section and to do not start the order numbers from the beginning for each sub-section, otherwise, it could be confusing for an interviewer and would take more time to fix issues with the questionnaire.

2. Consider having validation conditions for **"NACE"**, **"ISCO, SIZEFIRM"**, and **"PG1"**

3. The sub-section s9.16 shouldn't be enabled if everything inside of it is disabled and there is nothing to ask.

4. It would be easier for an interviewer if the questions **"MSTARTWK"**, and **"MONTHPR"** were implemented as single-select.

Section 12

12. The section has only one question and it's the GPS question, consider the possibility of moving it to the Section 4 or 5.

## 2.5.  EHIS (European Health Interview Survey)

The EHIS (European Health Interview Survey) questionnaire[9] was developed in Romanian language by the INS in Survey Solutions software and shared with the WB for further review of the questionnaire overall, the correctness of validation, enabling conditions, and checks on conditional exceptions.

As a result of the EHIS questionnaire review recommendations on improving and fixing issues in the questionnaire, and the questionnaire DRAFT [10] with implemented most complex modifications were shared with INS for explanatory example purposes.

Review of the questionnaire:

Across the questionnaire similar issues were found:

For all variables in the questionnaire that are used only for calculations or/and text substitution please consider using the functionality **"do not export"**.

It is a bad practice to leave variables without variable labels. In further work, it would be hard to figure out what a variable calculates without looking at the code.

Through all questionnaire validation conditions used to substitute enabling conditions, don't use validation conditions to check only if the previous question was answered, please consider using enabling conditions instead.

Before the data collection interviewers should be trained that no questions should be missed and that they should fill in all the questions from the top to the bottom of the page.

The current approach would confuse interviewers, especially if previous question locates in a different page or sub-section. Currently, more than 70% of validation in the questionnaire checks if previous questions were answered. A validation for a question should validate provided information to the current question, it's not recommended to have validations that check information which is irrelevant for the current question.

Use function **"IsSectionAnswered(sectionName)"** instead of writing complicated validation conditions for questions to check if the previous section/sub-section was answered.

Usage of questionnaire hyperlinks in Error messages could significantly save time for an interviewer. (Example of usage https://docs.mysurvey.solutions/questionnaire-designer/components/questionnaire-hyperlinks/**")**

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[9] https://designer.mysurvey.solutions/questionnaire/details/bcce9815cf694b94a5d45cafa7e85d90
[10] https://designer.mysurvey.solutions/questionnaire/details/ee68d3527ddd41c4bdfb4ec61d0130c7

Validation conditions such as **"IsAnswered(self)", "!IsAnswered(self)", "self != null", "self == null"** would not work. A validation check launched when an answer/value was recorded for the question. If there is no answer recorded a validation condition won't be launched.

In cases when you have sub-sections with static text at the beginning of the section followed by questions with enabling conditions, appropriate enabling conditions should be added for the sub-section itself, otherwise, there would be an empty sub-section or an empty sub-section with a static text.

## Section **"CG – INFORMAȚII PRIVIND LOCUINȚA (CG1-CG7)" (HOUSING INFORMATION)**

1. Consider having a static text check after the **"ziua_luna_ann"** Please see the example.

2. The validation condition for **"sil"** would not work. All checks launch when an answer to a question was provided, if there is no answer provided the validation would not be launched. Here is why the validation condition **"IsAnswered(self)"** would not work. I suggest having an enabling condition instead. Please refer to the shared draft.

3. The question "**nrg**", the second part of the validation condition will not be launched, please see the 2.

4. Question "**nog**":

- the validation condition #4 for the question could be omitted. Please see 2.

- enabling condition for the question recommended please refer to the shared draft.

5. An enabling condition is recommended for the "**pa**". Please refer to the shared draft.

6. The enabling condition could be simplified for the **"ras", part "sil == 1"** of the enabling condition is already implemented within **"pa == 1"** part.

7. The enabling condition for the sub-section could be simplified based on the already implemented enabling condition in referring questions. Please refer to the shared draft.

## Section **"CG – INFORMAȚII DESPRE GOSPODĂRIE" (HOUSEHOLD INFORMATION)**

1. The enabling condition for the section could be simplified based on the already implemented condition in the reference question. Please see an example of implementation in the shared draft.

2. Question "**ntotal**":

- the question accepts **"0"** as the number of people in the household. It should be at least one person in a household. Because of that, please modify validation condition #. Please see an example of implementation in the shared draft.

- validation conditions #2 and #3 are irrelevant for the current question. An interviewer could be confused because the questions that are checked are located in a different section and are not connected to the current response.

3. The Static texts that are used at the end of the section should have an enabling condition, otherwise, they will be visible regardless if there are questions enabled after them. Please see an example of implementation in the shared draft.

4. The validation condition #3 for the "**nmales**" won't be launched unless the question is answered, it could be omitted. Consider using the enabling condition instead.

5. Question "**nfemales**," consider having the enabling condition for this question, which would enable the question when an answer for "ntotal" was recorded. Please see an example of implementation in the shared draft.

**6**. The Variable "hhsize" is equal to the "ntotal", there is no need in duplicating the same value. The check is partly implemented as validation conditions for the "nmales" and "nfemales".

**7.** Question "sv":

- validation condition #2 checks that the answer option #4 should be always selected if there are kids under 15. Consider a case when it's possible to have kids under 15 and do not have benefits from option #4.

- the enabling condition recommended. Please refer to the shared draft.

8. Question "**vn**":

- consider using enabling condition instead of validation condition#2

- if there is no source of income, the question should not be asked. Please refer to the shared draft for an implementation example.

9. Question "**vtn**":

- validation condition is overcomplicated, some of the parts are already implemented within the reference questions, and the part " **vn==2**" would never be checked. The whole condition could be replaced with the condition "**self >= 100**". Please refer to the shared draft for an implementation example.

- the enabling condition for the question could be simplified. Please refer to the shared draft for an implementation example.

10. The validation condition for the "**iv**" is overcomplicated. Some of the parts are not related to the current question, others would not be launched unless the question is answered. The validation condition could be omitted if enabling condition for the "**vn**" would be implemented. Please refer to the shared draft for the example of implementation.


Section "**CG – COMPONENȚA GOSPODĂRIEI**" (COMPOSITION OF THE HOUSEHOLD)

1. Question "**ListMembers**":

- validation condition #1 is irrelevant to the current question.

- the check on the number of people implemented outside of the question as the static text, should be implemented within the question. Please refer to the shared draft for an implementation example.

2. The static text after the **"ListMembers"** could be omitted and the validation condition moved to the question **"ListMembers"**.

3. Consider using **"Do not export"** functionality for the variable **"dataref"**.

5. The expression for the **"varsta"** could be simplified, there is no need to use the **"dataref"**. Please refer to the shared draft for an implementation example.

6. The question **"decvarsta_l"** could be replaced with a variable and age in months could be calculated by CAPI. Please refer to the shared draft for an implementation example, variable **"decvarsta_l_2"**.

7. The validation condition for the **"sex"** is not validating the current question. Please consider moving it where it is applicable. Or use enabling condition instead.

8. Include exceptions in your variable **"title"**. Please refer to the shared draft for an implementation example. Consider using **"Do not export"** functionality if you don't need this variable in your export file.

9. Question **"prez"**, the validation condition is irrelevant for the current question, consider using the EC instead of the validation condition.

10. Question **"sciv"**.

- validation condition#1 would never be launched because the question is enabled only for members 16 years old or older.

- validation condition#2 won't be launched unless the question is answered, no need of having it.

11. Question **"uc"**:

- validation condition#1 f is not clear, it allows the answer **"yes"** for members under 15.

- validation conditions #1 and #2 could be combined. Please see the shared draft for an example.

12. validation condition for **"etn"**, **"cet"**, and **"taran"** are not validating questions themselves. Consider using enabling conditions instead.

13. Enabling conditions for **"taran_txt"**, and **"cet_txt"** could be simplified. Please refer to the shared draft for an implementation example.

14. Question **"nivs"**:

- English translation is incorrect, and answer options are shifted.

- validation condition #2 is already implemented within validation condition #1.

- validation condition #3 is not validating the current question. Please consider moving it where it is applicable. Or use an enabling condition instead.

15. The question **"clase"** should have a validation condition, right now it accepts any number.

16. Question **"grud"**:

- validation condition #1 could be simplified, you don't need to check for **"null"** if you are checking for a specific answer option. Please refer to the shared draft for an implementation example.

-validation condition #2, the condition checks not only the age of the Head of the household. The error message should be modified.

The condition is complex. You also have parts that compare the age of the Head with options 10, and 8. Those parts could be omitted because they are implemented in another validation condition within the question. Please refer to the shared draft for an implementation example.

- validation condition #6 is overcomplicated because you want to check the age difference between the head and a child regardless of gender, you don't need to use such complicated validation. Please refer to the shared draft for an implementation example.

- validation condition #7 does not work correctly. Please refer to the shared draft for an implementation example on how to fix it.

- validation condition #9 is overcomplicated. If you want to check that the age difference between spouses is not more than 15 years, fix the Error message, because right now it says that the age difference between spouses is too small, that's not what you are trying to check. Please refer to the shared draft for an implementation example.

- validation condition #10. The validation condition could be simplified. Please refer to the shared draft for an implementation example.

17. Variables **"sum_adult…"** have the checks that have been implemented already in the questionnaire in different sections. Do you want to have that many checks that check the same information? Consider using the functionality **"do not export"** if you don't need those values in your data export file.

18. Consider showing the static texts from the end of the section with errors when gender was answered for all household members, otherwise, it would be confusing to get the error when an interviewer would just start to enter data.

19. Consider having variables for showing codes, names for a head of the household, and the head's spouse/partner. This data could be used in validation conditions. Please refer to the shared draft for an implementation example, variables **"HeadCode"**, **"HeadName"**, **"SpouseCode"**, **"SpouseName"**. Those variables could be exported or not based on your decision.


Section **"CG – RELAȚIILE DE RUDENIE" (KINSHIP RELATIONS)**

1. The section should have the same logic of the enabling condition as its child roster, otherwise, an empty section would be created. Please see the example in the shared draft.

2. For the question **"live_nsot"** consider having validation conditions for the head of household and a spouse/partner. If any were declared at the beginning, the answer for the **"live_nsot"** cannot be **"No"**. Please see the example in the shared draft.

3. Question **"nsot"**:

- the question should have a similar enabling condition to its filter, otherwise, the question would be empty, and no answer options would be displayed. Please see the example in the shared draft.

- the question should be linked to the roster **"membersdetails"**, not to the **"membersdetails2"**

- validation condition #1 Could be simplified. Please see the example in the shared draft.

- there is no need to have the validation condition #2 because people of the opposite gender are filtered out by the filter.

- validation condition #4 The wrong referring question is used in the validation condition. There is no need to check that the father question **"live_tat"** was answered for all members to check if the selected spouse has the appropriate answer. Please see the example in the shared draft.

- validation condition #5 is already implemented within validation conditions #4, and #3. Validation condition #5 could be omitted.

- consider having a validation condition to check if the spouse of the HH selected HH's name as a spouse/partner. Please see the example in the shared draft, validation condition #6

4. Questions **"live_mam"**, and **"live_tat"**:

- consider having validation for kids of a household head. If a member was declared as a child of the household head, the answer should be **"Yes"**. Please see the example in the shared draft, validation condition #2

- consider having validation for the head when there was declared a parent of the household head. If there was a member declared as a parent of the household head, the answer should be **"Yes"**. Please see the example in the shared draft, validation condition #3

5. For questions **"nmam"**, and **"ntat"**, consider having a validation condition for already declared kids of the household head. If a member was declared as a kid of the HH, the HH should be selected as a parent. Please see implementation in the shared draft, validation condition #4.

6. The variable **"idmama"** does not work correctly, right now it shows the id of the father's spouse/partner. Please see the implementation in the shared draft.

7. The variable **"numemama"** does not work correctly, because it relies on the numeric order of the referring list question. Please see the implementation in the shared draft.

8. The variable **"idtata"** does not work correctly, right now it shows the id of the mother's spouse/partner. Please see the implementation in the shared draft.

9. The variable **"numetata"** does not work correctly, because it relies on the numeric order of the list question. Please see the modification in the shared draft.

10. Variables **"mamasot"** and **"tatasot"** show the IDs of spouse's/partner's mother and father. Is it what you were trying to implement? If yes, please see the correct implementation in the shared draft.

11. Consider adding variables for members' spouses **"spID"** and **"spName"**. Please see the implementation in the shared draft.

12. The enabling condition for **"datf_cg"** would not work correctly in the case when there are members who are long-term absent or temporarily present.

Section **"CIA – CHESTIONARUL INDIVIDUAL PENTRU ADULȚI" (INDIVIDUAL QUESTIONNAIRE FOR ADULTS)**

1. The enabling condition for the section could be simplified. Please see the modification in the shared draft.

2. Questions **"ziv_lnv_1…3"**:

- questions are asked at the same time. Question **"ri"** should be triggering for each of the date questions.

Consider asking at first the **"ziv_lnv_1"** – the date question of the visit, after asking the **"ri1"** question, if the answer is within a range from 1 to 3 then continue the interview if the answer is option **"4"** activate the **"ziv_lnv_2"** and follow the same logic as before. If the answer for any of the **"ri"** questions is out of range from 1 to 4 then end the individual questionnaire with a current person. Please see the example of the logic, and conditions implemented in the shared example.

- validation conditions for **"ziv_lnv_1…3"** do not work correctly.

3. Consider using the functionality **"do not export"** for variables **"ziv.."** and **"lnv.."** if you don't need this data in the data export file.

4. The question **"orai_mini"** could be calculated by CAPI based on the section interview date and replaced with a variable. Please see the implementation in the shared draft, variable **"orai_mini2"**.

5. For the sub-sections inside the subsection consider the usage of an enabling condition (IsSectionAnswered(previousSection)) instead of a validation condition for some of the child questions.

6. Questions **"exlu"**, **"ocup_txt"**, **"ocup"**, and **"actp_txt"**, consider using an enabling condition instead of validation condition #1

7. Question **"actp"**.:

- consider using an enabling condition instead of validation condition #2.

- validation condition #3 part **"ri.InList(1,2,3) &&"** could be omitted, it's already implemented within the parent.

8. Question **"taram"**.

- consider using an enabling condition instead of validation condition #2.

- validation condition #1 is not validating the current question. Please move this condition where it's more appropriate.

9. Question **"taram_code"** the validation condition could be omitted because it's already implemented within **"taram"**

10. Question **"tarat"**. The validation condition does not work.

11. Questions **"san"**, **"cron"** , **"alim"**. The previous questions are outside of sub-sections. Consider using an enabling condition instead of the validation condition to do not confuse an interviewer. Please see the implementation in the shared draft.

12. Questions **"dint"**, and **"boala"**. Suggested usage of enabling conditions for parents instead of validation conditions for the **"dint"**, and **"boala"**. Otherwise, there will be empty sub-sections created. Please see the implementation in the shared draft.

13. Roster **"ban_diag"**. If a roster for a specific answer option needs to be disabled it's enough to have a condition for that option only, there is no need to list all allowed answer options. Please see the modification in the shared draft.

14. Question **"suf_a"**. Consider using an enabling condition for the parent instead of the validation condition for the **"suf_a"**. Otherwise, there would be an empty sub-section created. Please see the implementation in the shared draft.

15. Question **"intern"** Suggested usage of enabling condition for the parent instead of validation condition #2 for the **"intern"**. Otherwise, there would be an empty sub-section created.

16. Question **"motint"**, validation condition #2 would not work. If the question is not answered the condition would not be launched.

17. Questions **"txtmot"**, and **"mbo"**. Because the questions have the enabling conditions, there is no need to have the same checks in validation conditions. Validation conditions would not be launched unless **"motint==2"**. The validation conditions could be omitted.

18. Questions **"txtmotz"**, **"mboz"**:

- validation condition #1 is already implemented within the question **"motintz"**, validation condition could be omitted.

- both questions have the same validation condition #2 which is irrelevant for questions. Because questions **"nizi"**, and **"motintz"** have an enabling condition **"intzi == 1"**, validation conditions would never be enabled when **"intzi.InList(2,9)"**. Validation condition #2 could be omitted.

19. Question **"motstom"**:

- validation condition #1 There is no need of having this condition because for a single-select question would not be possible to record an answer option that wasn't in the list of options. Validation condition #1 could be omitted.

- validation condition #2, and validation condition #3 would never be launched because the question has enabling condition **"uvstom.InList(1,2,3,4,9)"**. These validation conditions could be omitted.

20. Question **"mfam"**. Validation condition #2, question **"vmf"** has the enabling condition **"umed.InList(1,9)"**, so the question **"vmf"** would never be answered when **"umed.InList(2,3,4)"**. The part of the condition which checks if the **"mfam"** question was answered itself would not work. The condition could be omitted.

21. Question **"vsp"**:

- validation condition #1, if the question is not answered condition would not be launched. Validation condition could be omitted.

- validation condition #2 could be simplified, there is no need to repeat part of the validation condition in the question's enabling condition and vice versa.

22. Question **"specm"**. Validation condition #2, if the question is not answered the condition would not be launched, also the question has the enabling condition which disables the question when **"uspec.InList(5,6)"**. The validation condition #2 could be omitted.

23. Question **"antibp"**. There is no need to have validation condition #1 because the question has the enabling condition.

24. Question **"anticp"**. Validation condition #1, there is no need to check if the question **"mcp"** is answered if the question has the enabling condition **"IsAnswered(mcp)"**.

25. Question **"dmcn"**. Validation condition #2, the check, if the question itself is answered, would not work.

26. Questions **"utens"**, **"ucols"**, **"uglic"**, and **"fec"**. Usage of enabling condition recommended instead of the validation condition #1

27. Question **"ufec"**. The question does not have an answer option with the value **"0"**. The validation condition #2 would never work.

28. Questions **"col"**, **"motm"**, and **"uglic"**. Consider using the enabling condition instead of validation condition #1.

29. Question **"pap"**. Validation condition #2, there is no need to have this condition, because questions **"umam"**, and **"motm"** are enabled only when **"mam == 1"**.

30. Question **"upap"**:

- validation condition #1, the condition would not work.

- validation condition #2, no need to have this condition, it would never be launched, because the question has the enabling condition **"pap == 1"**.

31. Question **"ultc"**:

- validation condition #1, all questions in the validation condition expression have the enabling condition **"sex == 2"**, there is no need of having this validation condition.

- validation condition #2, all listed questions in the validation condition have enabling condition **"pap == 1"**, there is no need to have this validation condition.

- validation condition #4, question **"upap"** enabled when **"pap == 1"** there is no need to validate it. The check if the question **"ultc"** itself is answered would not work.

32. Question **"prog"**. Validation condition would not work. A question cannot check itself if it is answered.

33. Question **"minmj"**:

- validation condition #1 would not work, the enabling condition for the question is **"zmj.InRange(1,7) "**, and the enabling condition for the **"zmj"** is **"mj == 1"**. So, the validation condition will not be launched, and it should be removed.

- validation condition #2 won't work.

34. Question **"minbic"**:

- validation condition #1. The question **"minbic"** is enabled when **"zbic.InRange(1,7) "** and question **"zbic"** when **"bic == 1"**. So there is no way that those 2 questions would be enabled when **"bic == 8 or == 9"**. The validation condition #1 should be removed.

- validation condition #2 won't work.

35. Question **"zaf"**:

- validation condition #2, the question has enabling condition **"af == 1"**, the validation condition will never be launched. Please remove it.

- validation condition #3, won't work.

36. Question **"zforta"**

- validation condition #2 won't work if the question is not answered.

- validation condition #3, **"zaf"** already has the validation condition **"zaf.InRange(1,7) "**, there is no need to duplicate it.

- validation condition #4 should be moved to the appropriate question. In this case to the question **"forta"**.

37. Questions **"nl"**, and **"nml"**. Validation condition #1 seems to have the same checks but the values are different, please double-check.

38. Questions **"nml"**, **"zml"**, **"ozml"**, **"enml"**, and **"apaml"**.  Validation condition #2 won't work.

39. Questions **"nml"**, **"zml"**, **"ozml"**, and **"enml"**,  validation condition #4, validation condition #5 could be simplified. Please see the example of modification in the shared draft.

40. Question **"apaml"**,

- validation condition #3 would never be launched because the question is enabled only when **"oapa == 1"**

- validation condition #4 is redundant, if **"apaml.InRange(50,950)"** it means that **"apaml"** is answered. Please remove this condition.

41. Question **"oraf_minf"**,  instead of having the enabling condition for the question, consider having the enabling condition for the parent, which would check if all previous sections were answered. Otherwise, the sub-section would be visible when the section hasn't been finished yet. Please see the example of implementation in the shared draft.


Section **"CIC – CHESTIONAR INDIVIDUAL PENTRU COPII"** (INDIVIDUAL QUESTIONNAIRE FOR CHILDREN)

1. The enabling condition for the Section could be simplified. Please see the example of modification in the shared draft.

2. The enabling condition for the **"membersdetails_y"** could be simplified. Please see the example of modification in the shared draft.

3. Questions **"ziv_lnv_1_y …. 3_y"** are enabled at the same time. There should be some questions regarding the status of completion of the section at the end of the section, that would enable the following day-time stamp questions.  As it is implemented right now, it does not make sense to ask those 3 questions at the same time. The validation condition for those questions does not work correctly.

4. Question **"orai_mini_y"** could be replaced with a variable. There is no need to ask an interviewer to answer the date timestamp question again.

5. Question **"sevl_y"**. Validation condition #1. The question **"sevl_y"** has the enabling condition **"alim_y.InList(1,2,9)"** there is no need to have the validation condition in this case because this question will not be enabled if different from the listed answer options is recorded.

6. Question **"ban_y"**, validation condition #1 would not work.

7. Question **"dint_y"**, validation condition #1 is redundant, there is no way to record an answer option other than provided in a single-select question.

8. Question **"och_y"**. The enabling condition could be omitted because the parent already has it.

9. Question **"bast_y"**. The validation condition is invalid. There are no answer options with the value **"0"** in the question.

10. Question **"comj_y"**. Based on enabling conditions implemented for **"comj_y"** and **"bast_y"** there is no need to have the current validation condition.

11. Questions **"amin_y"**, and **"bat_y"**, validation conditions are invalid. There are no answer options with the value **"0"** in those questions.

12. Question **"pic_y"**. There is no need to have the validation condition because the question **"bat_y"** has enabling condition **"varsta.InRange(2,4)"**.

13. Question **"motint_y"**, validation condition #2 would never be launched.

14. Question **"mbo_y"**, validation condition #2 is already implemented within the enabling condition for the question.

15. Questions **"txtmotz_y"**, and **"mboz_y"**. The validation condition #2 is already implemented within enabling condition for questions **"nizi_y"** and **"motintz_y"**.

16. Question **"motstom_y"**:

- validation condition #2 would never be launched.

- validation condition #3 is redundant because the question has an enabling condition that excludes mentioned case.

17. Question **"mfam_y"** The validation condition #2 is already implemented within enabling condition for the **"vmf_y"** and the **"mfam_y"**.

18. Question **"vsp_y"**. The validation condition #2 could be simplified, there is no need to have a condition that is already implemented within the enabling condition.

19. Question **"motsp_y"**:

- the question has enabling condition **"uspec_y.InList(1,2,3,4,9)"** so the validation condition #1 is redundant.

- validation condition #2 is invalid.Questions **"motsp_y"**, and **"specm_y"** do not have answer option **"0"**.

- validation condition #3 would never be launched.

20. Question **"mcn_y"** The first part of the validation condition is implemented within enabling conditions for questions **"dmcp_y"**, and **"antibp_y"**, so it could be omitted.

21. Question **"sis2_y"**. The validation condition #3, if **"varsta"** is less than 3, the question will not be enabled. The validation condition should be modified.

22. Question **"minmj_y"** The validation condition #2 would never be launched.

23. Question **"minbic_y"**:

- validation condition #2 would never be launched.

- validation condition #1 is already implemented within enabling conditions for **"zbic_y"**, and **"minbic_y"**

24. Question **"zaf_y"**:

- validation condition #2 is already implemented within the enabling condition

- validation condition #3 would never be launched

25. Questions **"fru_y"**, **"leg_y"**, and **"sucn_y"** The enabling condition could be simplified. Please see the example of possible modifications in the shared draft.

26. Question **"nml_y"**, the validation condition #3 could be simplified.

27. Question **"zml_y"**:

- validation condition #2, would never be launched.

- validation condition #3 could be simplified. Please see the example of possible modifications in the shared draft.

- validation condition #5 is already implemented within the enabling condition, the validation condition is redundant.

28. Question **"alex_y"**. The validation condition would never be launched.

29. Question **"valexl_y"**, the validation condition could be simplified. Please see the example of possible modifications in the shared draft.

30. Question **"oraf_minf_y"** should be enabled when all sub-sections were answered.

31. Question **"gpsloc"**, usually GPS location is collected at the beginning of the interview. I would recommend moving it to the **"CG - DATE DE IDENTIFICARE" (IDENTIFICATION DATA)** section.

## 2.6. HBS (Household Budget Survey)

The HBS questionnaires were provided as PAPI version of questionnaires.

After reviewing **"Household budget survey"**, and **"Complementary section"** questionnaires the following recommendations were made:

1. According to the nomenclature questionnaire should have corresponding questions for preloading.

2. Each visit should have the beginning and result questions. And the next visit question should be active only when the result for the previous visit was recorded.

3. Recommended splitting **"Members"** roster after the question **"STACIV"** from the **"HOUSEHOLD COMPOSITION"** section. By doing that basic information for all members of a household could be collected at first and it could be used later for conditions.

4. Recommend moving the **"Household grid"** inside the second **"Member detailed"** roster. By doing that it would be possible to have basic validation conditions between members. Otherwise, an interviewer would need to go back and forward which would be very time-consuming.

To collect the relationships in the household the grid roster should be inside a member roster, this would allow asking about the relationship of the current member to the rest of the household members.

By splitting the member roster into 2 parts, would be possible to collect the dates of birth and gender of all members at first. Then continue with a roster about relationships, at this point, and would be possible to validate answers(members) based on age and/or gender. For example, a child should be younger than the selected parent.

5. In the question "**RELPERS**" "**Relation to reference person**" the answer option #1 is "**Household head**".

For example, a household consists of 3 people, dad, mom, daughter. The head of the household is the dad.

The person with the highest income is the daughter, however, it was not reported anywhere, so when we ask this question for each member, we don't know who it refers to. So not clear for this scenario what answer should be on "**RELPERS**" for each member.

This question should be split into two. The first part outside the members' roster would ask **"Who is the reference person?"**. And the second one inside the roster would ask about relationships with the reference person. Otherwise, it's not clear how to ask the question for member #1, if the reference person is #3 who hasn't declared yet that he/she is the reference person and he/she is not the head of the household.

6. The answer option #1 in the "**RELPERS**" should not describe relation status. The answer option #1 is **"Household head"** not the reference person. And as you mentioned above: "The first person in the household composition is the head of the household. Please see the answer above.

7. The question "**INSTR**" should be implemented as 2 questions, because 2 questions asked here at the same time "**Do you follow some form of training? (What form of training?)**" For example, if a member does not participate in any training, an interviewer would need to search through the training names and answer option **"No"**.

8. The question "**STOCUPAN**" should have an enabling condition based on "**STOCUP**" for answer options 9, 10, and e.c.

9. To do not have one large roster of products recommended to have a separate roster for each group of products.

10. Before asking questions regarding each product recommended to ask a filter question about whether a group of products was used at all.

11. All totals could be implemented as variables and calculated by CAPI. Some of the calculated totals could be shown to an interviewer.

Based on the recommendations above was created a draft of the CAPI questionnaire [11]that includes basic validation conditions, skip patterns, and implemented total calculations for all group of products. The draft was shared with the responsible INS team

Based on the PAPI version of the **"Household diary"** was created the draft of the CAPI version of the questionnaire[12].

The CAPI version of the questionnaire feature:

1. **"Chapter 1"** was implemented as a personal roster for each member of the household who had income. Based on the category each member could report income for a category or a date.

2. **"Grocery sub-section"** from **"Chapter 2"** was implemented as a roster where for each date when any purchase was made could be reported a type of product, amount, and quantity.

3. **"Other expenditures sub-section"** from **"Chapter 2"** was implemented as a roster where a list of dates when a purchase was made could be reported. For each date a list of **"expenditures"** could be specified, afterwards, data for each **"expenditure"** could be provided.

4. **"Incoming and Outgoing of agri-food products in /outside household"** chapter was implemented as a roster where a list of dates when were made any actions with a product. For each date could be reported a list of products. For each product name **"incomings"** and **"outgoings"** data could be reported.

5. Chapter **"Further Household Comments"** where the household could report a list of products was implemented as a roster. For each product based on the category, detailed data could be reported.

6. For all chapters were implemented suggested totals calculated by CAPI.

7. Consider having clarified hidden questions with **"question scope supervisor"** for products which names were specified by a household.

Recommended adding clarifying hidden questions with **"question scope supervisor"** for products, names of which were specified by a household. Adding clarifying questions would allow to select for each product a group of products to which product belongs, product name, and product code from the nomenclature. The data could be preloaded to the HBS questionnaire later.

There are products in the **"Household diary"** for which data is collected only once for the whole time of the survey and the same data for the same products asked in the HBS questionnaire (diesel, Radio-TV user fee, and e.c.). There is no need to ask for the same products for the same data again in the HBS questionnaire, calculated by CAPI data could be preloaded instead from the **"Household diary"**.

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[11] https://designer.mysurvey.solutions/questionnaire/details/f86a46edf7c74b76b7564db6a4cad652
[12] https://designer.mysurvey.solutions/questionnaire/details/865a6b245f9d4ae8afe5a21dad5738ab

## 2.7. TUS (Time Use Survey)

Time use data has an important use in public policy debates over issues ranging from infrastructure investment to social spending. It is collected through specialized Time Use Surveys (TUS) or as added modules in multi-topic household surveys (so-called: omnibus surveys). Under the ESS, time use data is collected through the Harmonized European Time Use Surveys (HETUS).

Time use data involves attributes such as type of activity, its start, end, duration, where it was practiced, with whom, and so on. Detailed analysis of it allows to go beyond the "*typical hours working*" indicator into analysis of social interaction, specialization of household members in different tasks, gender inequality, unpaid work etc.

The standard approach of using a respondent's diary may be utilized, in which the respondents are asked to fill out a paper form over a certain period (e.g., either 7 days in a row, or as in other cases for only 2 days, usually 1 weekday, and 1 weekend day), listing all the activities they did throughout the day with their attributes. These forms are subsequently collected and data from them entered into computers for analysis. Alternatively, the respondents may be filling out forms over the Internet (web interviews) directly, without the need of the paper-based diaries. There is also a possibility to collect the time use data with a recall, but this approach lacks the accuracy of the diary method, as short activities or activities exercised in parallel with other ones will likely be omitted by the respondent.

The complete questionnaire structure to collect this type of data may vary, but typically belongs to one of two broader categories:

- **Interval-based**, where the respondents indicate what activities they were doing in a certain interval (with some granularity, possibly an hour or 15-minutes long intervals).
- **Activity-based**, where the respondents list all the activities they did throughout the day, including the time when they did it. This can either be in chronological order or completely unstructured. Nevertheless, the latter approach may result in leaving out certain activities.

Both approaches can be implemented in Survey Solutions. A more detailed explanation on how will follow further down below.

The **interval-based** approach is commonly considered to be the gold standard when it comes to the collection of time-use data, in particular since TUS requires detailed information on "how much people spend time on various activities throughout the day"[13]. These intervals are often presented as tables (rosters) and may consist of interval lengths as small as 10 minutes, and, for each of these intervals, information about primary and secondary activity as well as the location where this activity was carried out and with whom is commonly collected.

Yet it results in the repetition of inputs when activities span over multiple periods. For example, a 7-hour long activity 'sleeping' will occupy 28 - 15-minute-long intervals, but can also cover 42, 10-minute-long intervals. If we ask other attributes, such as 'where', that must then be repeated for every interval, (at home, at home,… at home – 28 times).

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[13] https://ec.europa.eu/eurostat/web/time-use-surveys

Nevertheless, when the information is only collected through **open text and numeric questions**, we can employ a tabular representation of the roster, which may be particularly useful when using self-administered (so-called: leave-behind) diaries in CAWI.

Besides the distinction between interval and activity based, there's also an additional distinction between a light diary and a full diary when using the interval-based approach.

In a light diary, activities are to be selected from a list, or from a drop-down question when using CAWI, and only a pre-selected fixed range of activities is available. The advantage of this approach is, that the data is already coded for further processing.

In a full diary however, activities are not pre-coded, and respondents can provide the information usually through an open text question. Coding of each of the activities is then carried out by specially trained coding staff.

In addition, most of the TUS nowadays don't ask for a full 7-day week, but rather sample over days and respondents, and in most cases asks the respondent to provide the information for 1 weekday and on weekend day.

*Figure 1 - Tabular presentation of the roster for a light diary*

Please indicate, which activities did you do yesterday in each time period below.
Please use the following codes:
A..SLEEPING AND RESTING
B..EATING AND DRINKING
C..PERSONAL CARE
D..SCHOOL (INCLUDING HOMEWORK)
E..WORK AS EMPLOYED
F..OWN BUSINESS WORK
G..FOOD CROP FARMING
H..CASH CROP FARMING
I..LIVESTOCK RAISING
J..FISHING OR FISHPOND CULTURE
K..COMMUTING (TO/FROM WORK OR SCHOOL)
L..SHOPPING/GETTING SERVICE (INCLUDING HEALTH SERVICES)
M..WEAVING/SEWING/TEXTILE CARE
N..COOKING
O..DOMESTIC WORK (INCLUDING FETCHING WATER AND COLLECTING FUEL)
P..CARING FOR CHILDREN
Q..CARING FOR ADULTS (SICK, ELDERLY)
R..TRAVELING (NOT FOR WORK OR SCHOOL)
S..WATCHING TV/LISTENING TO RADIO/READING
T..EXERCISING
U..SOCIAL ACTIVITIES AND HOBBIES
V..RELIGIOUS ACTIVITIES

| Time use | __:00-__:15 | __:15-__:30 | __:30-__:45 | __:45-__:59 |
|---|---|---|---|---|
| 00:00-00:59 | A | A | A | A |
| 01:00-01:59 | A | A | A | A |
| 02:00-02:59 | A | A | A | A |
| 03:00-03:59 | A | A | A | A |
| 04:00-04:59 | A | A | A | A |
| 05:00-05:59 | A | A | A | A |
| 06:00-06:59 | A | A | A | A |
| 07:00-07:59 | C | B | B | KS |
| 08:00-08:59 | KS | KS | KS | KS |
| 09:00-09:59 | E | E | E | E |
| 10:00-10:59 | E | E | E | E |
| 11:00-11:59 | E | E | E | E |

The activity-based approach focuses on each activity and assigns other attributes once, linking them to the whole activity. For example, a 3-hour long 'talking' activity may be linked to the spouse (once), and location may be specified as 'at home' (once).

Activities can be collected in chronological order, and varying time intervals can be assigned. To aid the respondent in structuring the day, sections and sub-sections may be used. This approach has the advantage that it decreases the response burden, however, may be prone to missing certain activities.

Survey practitioners that collect time use data face numerous practical challenges:

- Response rate are a serious challenge in TUS surveys
- Respondents receive a diary which requires a detailed listing of each period, administering such a diary by keeping the response burden low is difficult. On approach to implement such a diary in Survey Solutions would be through the aforementioned tabular presentation of numeric and text questions. Nevertheless, the using of diary on smart devices (mobile, tablet) would require some testing. Survey Solutions is optimized for tablets in CAPI mode and for browsers in CAWI mode. CAWI mode runs in any browser, however how it looks like on such devices in CAWI mode is depending on browser and device.

*Figure 2 - Diary implemented in Survey Solutions for a full diary*

Progress: 28/28   100%

| Time Interval | What where you doing? | What else where you doing? | Where were you carrying this activity out? | How many persons including you have been involved? | With whom were you carrying out this activity? |
|---|---|---|---|---|---|
| 04:00 - 04:59 | sleeping | 0 | home | 2 | partner |
| 05:00 - 05:59 | sleeping | 0 | home | 2 | partner |
| 06:00 - 06:59 | sleeping | 0 | home | 2 | partner |
| 07:00 - 07:59 | having breakfast | reading newspaper | home | 2 | partner |
| 08:00 - 08:59 | commuting to work | reading emails | home | 1 | |
| 09:00 - 09:59 | working | 0 | work | 1 | |

Morning
Afternoon
Evening
Night
Complete

AFTERNOON

- Using sections and subsections and dividing the day in different periods, may also help. Intervals in these periods can be of different length, like 10 minutes during the day, and 1 hour during the night.

- Time use activities need to be coded, either by the respondent directly or by a specially trained coder. The latter is recommended for both self- and interviewer administered surveys. Therefore, using open text questions is the recommended approach. When using text questions in survey solutions, validations based on Regular Expressions or fixed patterns can be applied to the text, like number of words, minimum length etc.

- Time use is information commonly collected at the individual level and thus in household surveys this is asked for all members of the household. This means that the questions must be repeated for them. Survey Solutions' rosters capability can do exactly that

replicating questions as many times as necessary for every household member. As in TUS, the diary is filled in by each person, a CAWI assignment which runs in any browser, no matter which device, could be the solution to access and write in the diary anytime during the reference day and later, however it may not display as nicely as on an appropriate screen.

- .

- Ideally time-use data must be collected for all household members, but this creates a burden for the respondents to keep the logs and subsequent challenge for the data entry. If necessary, Survey Solutions can assist in randomly selecting 1, 2, or N members of the household for questioning on the time use. Additionally, the questionnaire designer may formulate eligibility condition for selection, for example, to always include persons with disabilities, or include adults only. Time use survey includes also a household questionnaire and individual questionnaire that will be filled in by an interviewer. When filling in the HH questionnaire Survey Solutions can assist in the selection of some HH members that will complete the dairy by creating a random sample from eligible members inside the household, either selected at random, as well as by criteria (filter) when designing the questionnaire.

- Time use must be covered throughout the whole day, meaning there should be no gaps for which it is not known what the respondents were doing. Thus, for the activity-based approach one must make sure that the reported data covers the whole 24- or 168-hour reference period and in the interval-based approach that there are no empty cells. Survey Solutions' validation capabilities can be utilized to analyze the currently entered data and indicate whether the listed activities cover the whole reference period. (https://designer.mysurvey.solutions/questionnaire/details/702bef443dfb4fc8bd8c754612 590875/chapter/c46ee8950e6e4063813631e6bfa7c3f8/group/c46ee8950e6e4063813631e 6bfa7c3f8)

*Figure 3 - Survey Solutions validation capabilities for diary entered data*



- Typical questionnaire will then be using nested rosters to accommodate such a structure, with the top-level iterating over household members and lower-level iterating over activities, or hours and activities.

- Activities may happen simultaneously, either fully, or partially overlapping in time. It is common that the start, end or both do not match for the activities that overlap. This must be taken into account during the analysis of the completeness of data.

- Analysis of activity overlaps may be further complicated when activities are not compatible or are mutually exclusive. For example, a person may be '*eating*' and '*watching TV*' simultaneously, but not '*sleeping*' and '*watching TV*' at the same time. Survey experts may first create a matrix of compatibility of activities, and then embed it into the Survey Solutions survey questionnaire for validation as a lookup table.

- Raw data as entered by the respondents is usually not suitable directly for the analysis as the activities must be classified by type so that they can be aggregated and compared between different groups of respondents. Survey Solutions users may utilize ad-hoc classifications, or employ standard ones, such as the ICATUS 1-, 2-, or 3-digit activity classification. In the latter case it is convenient to use the Survey Solutions cascading selection question to progressively arrive to the proper activity code. For example, in sequential selections they may first select code "1" for "*Employment and related activities*", then "12" for "*Employment in household enterprises to produce goods*" and then further clarify with code "124" that the activity falls into the category "*Fishing for the market in household enterprises*".

- Survey Solutions provides diverse capabilities for assigning the activity codes. This can be done by the interviewer at the time of the face-to-face (CAPI) interview, or by the respondent himself/herself during a web-interview (CAWI), but may also be delegated to a special coding person, who is well trained in the classification and can do that task faster and with fewer errors. In this case the activity description must contain sufficient information to permit assigning such a code after the interview.

- Selection of the activity may be approached differently, whereas rather than presenting a cascading selection, the user can utilize a combobox approach where they can search through the large number of options and selecting among the ones that match the typed text. Reusing the above example, the interviewer types "*fishing*" and the program suggests choices from the ICATUS classification: "*124 - Fishing for the market in household enterprises*" and "*216 - Fishing, for own final use*".

- Having the detailed activity code, it is always possible to recover the activity group code (move from 3-digit to 2-digit code, or from 2-digit to 1-digit code). This is done in Survey Solutions with calculated variables.

- Activity codes may be refined by applying filters to remove non-applicable options. This typically requires referencing answers to other questions that are already answered. For example, if there are no other household members, some activities related to caring about children or seniors may be removed from the choice set. Or we may look at the person's age to eliminate work-related activities for babies and small children. This is done by applying filters on the options in categorical questions in Survey Solutions.

- Sometimes with cascading approach there are situations where there is not enough information to assign a detailed code. For example, the respondent may indicate that another family member has assisted a senior during some time but may not know whether the assistance was with "tasks of daily living" or with "forms, administration, accounts". It is possible in this case to leave the cascade at a middle-point, leaving the detailed code un-answered.

- Analysis of social interaction may require more involved mutuality validations (such as if John indicated talking to Mary, Mary must likewise mention talking to John at the same time). These validations require cross-checking information between different members, mainly applicable when in CAPI mode, but not for individual CAWI diaries

Being a generic software for survey management and data collection, Survey Solutions provides these and other tools to compile a comprehensive survey covering the questions on the Time Use and other modules for a multi-topic household survey.

## Examples

Survey Solutions comes with a demonstration module for the time use data collection in an activity based approach through the "*PUBLIC EXAMPLE Time allocation*[14]" questionnaire (shown also in Figure 3 above), available in the Survey Solutions Designer.

*Figure 4 - PUBLIC EXAMPLE Time allocation*



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[14]
https://designer.mysurvey.solutions/questionnaire/details/702bef443dfb4fc8bd8c754612590875/chapter/c46ee8950e6e4063813631e6bfa7c3f8/group/c46ee8950e6e4063813631e6bfa7c3f8

A module on time use is also included in the publicly available IHS4 questionnaire (in section *"[E] Time Use & Labor"*).

## Practical implementations

Survey Solutions has been selected as a tool for survey management and time use data collection internationally. For example:
- Completed: Bhutan, Gross National Happiness Survey, 2015[15]
- Completed: Uganda Time Use Survey 2017/2018. Final report by UBOS is available online.
- Completed: Malawi – Fifth Integrated Household Survey, 2019-2020 according to the UN FAO documentation for the dataset.
- Planned: Time Use Survey: South Africa, according to the presentation to UNSTATS.

## Limitations

Survey Solutions may lack the following functionality that may be considered useful, essential, or critical for Time Use Surveys:
- *Manual reordering of entered items* – there is no drag-and-drop functionality to allow the user to manually override the order of the entered items in the lists (whether activities or household members, etc.).
- *Automatic sorting of entered items on the screen* – while the items may be ordered in syntax for processing (e.g., activities from longest down to shortest) their order on the screen remains as the user has entered them.
- *Lack of presentations of matrix structures/tables* – the questionnaire is expected to be a sequence of questions, rather than matrix-type containers to be filled out. Some existing structures may be limited to CAWI mode only.
- *Lack of graphical presentation* of the information in a form of a Gantt-chart or a similar illustration.

Nevertheless, as INS will continue work with Survey Solutions, a permanent access to latest updates is ensured through newsletter and staff will be informed if new functionalities are developed and, by case, will be useful for actual surveys implementation.

## Checklist of necessary topics and skills

A survey practitioner considering development of a Time Use Survey questionnaire in Survey Solutions needs to be acquainted with the following design elements and techniques:
- Adding, ordering, moving and deleting of questions;
- Grouping of questions into sections and sub-sections;
- Repeating questions with rosters;
- Understanding roster types, for example a fixed roster is more suitable when the replication is over certain hours (known and fixed), but a list-triggered roster may be more suitable for the activity-based approach;

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[15] https://documents1.worldbank.org/curated/en/277751476782406500/pdf/109248-WP-BhutanCountrySnapshots-highres-PUBLIC.pdf, p. 6

- Understanding nested rosters;
- Specifying enabling conditions;
- Specifying validation conditions;
- Specifying filtering conditions;
- Use of syntax functions in validations (simple, like *InRange()* for range checks, and complex ones like *Count()* and *Sum()* looking across the different members of the households/different roster items).
- Understanding time points and durations and specific functions to work with dates and times.
- Performing calculations and conversions (e.g., hours into minutes, etc.) with calculated variables.
- Establishing cascading dependencies between selection questions.
- Use of lookup tables in the questionnaires.
- Understanding the data structure that results from the designed survey questionnaire.

In cases where a leave-behind diary in CAWI format is used, the same testing procedures apply as outlined in the section on CAWI testing on pp. 50. To further maximize this approach the respondent should also receive reminders as available in Survey Solutions CAWI mode and outlined at the end of the CAWI section.

# 3. Further recommendations for inter-census questionnaires

## 3.1. General recommendations for CAWI questionnaire design and multi-mode data collection (CAPI/CAWI)

### 3.1.1. Preparations

Besides collecting data through Face to Face or telephone interviews, there exists a third option, which is the self-administered web-interview, commonly known under Computer Assisted Web Interview (CAWI).

In CAWI a respondent receives access to the electronic version of a questionnaire, with the purpose of answering the survey questions all by herself. After finishing the interview, the respondent usually clicks a submit button to indicate that the interview is completed.

Surveys can either be carried out completely in CAWI, or also in Mixed Modes, combined either with CAPI or with CATI. Within mixed mode surveys, there are two distinct groups of surveys:

i. Mixed mode surveys, which apply different modes to different groups of respondents, either on purpose or at random (Between-Units-Mix). Like for example splitting the sample in half, or also applying different modes to different target population segments, like CAWI for persons with a high likelihood of internet access (CAWI) and persons with a low likelihood of internet access. In addition, when applying CAWI, a follow up through CAPI is always an option, for cases, where response quality is low.

ii. Mixed mode surveys which apply different modes to the same respondent, but for different domains (Within units mix). This could be the case for example in Household Surveys with a consumption diary or a time use module. On a first visit by a CAPI interviewer, the respondent answers all the demographic and household questions. After this interview, the respondent receives an access code for a web questionnaire, and over the course of the following four weeks she/he uses this questionnaire to provide all the information about the different consumption items.

A note here about when it comes to using CAWI (alone or in a mix mode design), is that there might be the situation where the first (or only) approach of the respondent is by CAWI. However, email addresses may be not known for the entire sample. However, respondents in the sample must be contacted and informed that they must participate in survey. The contact options are to send invitation letters (by regular mail or delivered by interviewers) that include details about the connection (link), but a potential shortcoming is that the link that Survey Solution generates is too long and by that is expected that respondents will be willing to type the link into the browser, which can be a challenge that CAWI survey faces. As ways around to this could be the use of internet panels but is not solving integrally the involvement and the action that responded should do. Other option is to use a self-registration portal as was used for PHC but modified for answering to purposes of specific surveys.

CAWI has several advantages, like:
- low unit costs,
- flexible in terms of time and location,
- no interviewer influence (Mode Effect),

However, it also comes with certain disadvantages:
- requirement for internet access
- low response rates
- no interviewer support (Mode Effect),
- difficult to connect web identification with other identification data (e.g.: the use of PIN/CNP or other ID data when is available only e-mail address or regular address; see above the note on using CAWI).

One important consideration when combining survey modes, or when transforming an existing face-to-face survey to CAWI is the mode effect. Depending on the source of the error, one can distinguish between:
- **Coverage Error:** This may be the case when parts of the target population don't have internet access.
- **Sampling Error**: This may be the result of using an incomplete sampling frame, because f. ex. a full list of email addresses is not available.
- **Non-Response Error:** Commonly self-administered surveys have much higher non-response rates than face-to-face or phone administered surveys for unit as well as for item non-response rates.
- **Measurement error:** This may be the result if individual questions are too complicate, and respondents fail to understand the relevant concept.

However, it may not always be the case that the relevant error is highest for CAWI. In particular the last item, measurement error, may even be lower in the case of very sensitive questions, like criminal history, voting behavior or sexual preferences, which is commonly higher in in-person (i.e.. phone or face-to-face) surveys. Nevertheless, there may be a difference between survey modes, and without knowing about the magnitude of the mode effect, data collected through different modes may become incomparable.

It is therefore very important, that during the transition to the self-administered mode a careful assessment of these mode effects takes place. This should ideally be carried out in two steps:
1. **Qualitative Assessment:** An in-depth study of a representative sample from the target population provides qualitative feedback on items like instrument user-friendliness, comprehension and other response behavior parameters. This technique is commonly known as Cognitive Interviewing.
2. **Quantitative Assessment:** This is can either be carried out by a Randomized Controlled Trial (RCT) of CAWI and CAPI treatment and control groups. Or as a double visit survey, where the respondent first completes the CAWI interview, and at a later stage receives the CAPI/CATI interview, either on all the items or some of the items. While the latter approach is considered the gold-standard, the problem with this approach is, that it

commonly is subject to low levels of respondent cooperation due to the repetitive nature of this exercise as well as high costs.

### 3.1.2. Survey Solutions Implementation

Conducting a CAWI survey requires the following steps:
1. Compose the questionnaire.
2. Import the questionnaire to the data server.
3. Make web-assignments for the survey.
4. Activate the web-survey mode.
5. Distribute the links.
6. Review incoming data/follow up with the respondents if necessary.
7. De-activate the web-survey mode.

Below we discuss these steps in more detail.

#### Composing & Importing the questionnaire

There is no difference of this step relative to importing the questionnaire for a face-to-face interviewing. Note that if you import a different version of the same questionnaire to the data server, the web mode for it (step #4) will need to be activated again, specifically for each version.

#### Make web-assignments

Once you import the questionnaire, you will need to create web-assignments. They are just like the regular assignments, but the following properties are important or exist only for web-assignments:

*Table 1 - Properties for web assignments*

| Preloading column | Property | Meaning |
|---|---|---|
| _webmode | Web mode | A simple boolean flag that is raised if the assignment is intended to be completed directly by the respondent. In the preloading file 1 corresponds to web mode, and zero or not specified value corresponds to no web mode for the assignment. |
| _email | Email | Email address of the respondent (optional) |
| _password | Password | if a password (optional) is specified, interviews based on this assignment will be protected by the password, which also needs to be communicated to the prospective respondents of the survey. See below on password rules. |
| _responsible | Responsible person | Account of the person responsible for the assignment. |
| _quantity | Quantity | Number of interviews that may be generated from this assignment; -1 corresponds to unlimited amount. |

In addition to the above properties, the web assignments have all the properties of the regular assignments. So that we can, for example, specify the values for identifying questions (fields). The email and password only make sense for the web mode assignments and are not effective for

the regular assignments. The values of all these properties can be seen in the corresponding columns of the table showing the assignments (Menu → Survey Setup → Assignments).

For a CAWI survey, set the value of **_webmode** to 1 for all assignments. For a mixed survey, only for those assignments that must be filled out by the respondents through the web.

Even though the CAWI survey is done through a self-enumeration (by the respondent) the person responsible for the assignment must be specified and be in the role of interviewer. A web assignment will not be created if it is made in the name of a user in a different role and you will get a corresponding error message.

The combination of the assignment's **quantity**, **email** and **password** will determine the overall protocol of the survey.

When the email is specified during the assignment creation, the Survey Solutions can utilize one of the bulk email delivery services to deliver the invitations for the survey. If these services have not been configured yet, the headquarters user must contact the server administrator, as such configuration requires administrator's access level.

*Table 2 - Combination of assignment's quantity, e-mail and password*

| # | Properties | Situation |
|---|---|---|
| 1 | • quantity=-1<br>• email=..empty..<br>• password=..empty.. | Typical setup for a public opinion survey - one link is made public through any media (newspaper, TV, website). All visitors of the link will have an opportunity to fill out an interview.<br>If the bulk email delivery service has been set up, at the start of the interview they will have a possibility to enter their email, so that they will receive a link to follow in case their session is interrupted, and they need to continue the started interview.<br>There is no limit to the number of interviews to be collected. |
| 2 | • quantity=-1<br>• email=..empty..<br>• password=..specified.. | Typical setup for a non-public survey of unknown audience, for example, visitors to a conference. The password must be made available to them (e.g., written on the board, or announced to them). The role of the password is to separate this group from all the other people who are not exposed and not the focus of the study. There is no limit to the number of interviews to be collected. |
| 3 | • quantity=-1<br>• email=..specified..<br>• password=..specified.. | Typical for monitoring surveys - the same respondent must authenticate himself/herself with the password and can submit an unlimited number of interviews (presumably regulated by the established protocol: daily, weekly, monthly, etc. or when a particular event happens, such as a patient arrives with a particular symptom). |
| 4 | • quantity=1<br>• email=..specified..<br>• password=..specified.. | Typical for private opinion surveys - the respondents are invited directly and can submit only one interview. To start the interview, they must follow the link and confirm their access with the issued password.<br>The interview may be completed in multiple sessions. If the respondent interrupts the interview, he/she can continue by clicking the same link received in the original invitation. |

| 5 | • quantity=1<br>• email=..specified..<br>• password=..empty.. | Similar to the above, but the respondents do not need to enter the password to start their interviews, just click on their personalized links. |
|---|---|---|
| 6 | • quantity=1<br>• email=..empty..<br>• password=..specified.. | Typical for private opinion surveys - the respondents can submit only one interview. To start the interview, they must follow the link and confirm their access with the issued password.<br>The interview may be completed in multiple sessions. If the respondent interrupts the interview, he/she can continue by clicking the original link. The passwords must be unique in this case, and the link distributed using alternative means. |
| 7 | • quantity=1<br>• email=..empty..<br>• password=..empty.. | This combination is not acceptable. |
| 8 | • quantity=N<br>• email=<br>• password= | Same as the case above where quantity is -1, except that the number of responses is not infinite, but is limited to N interviews.<br>First N respondents will start the interviews, other respondents will get a message indicating their participation is no longer needed. |

### Activate the web-survey mode

Once the assignments are created the survey coordinator needs to set up and activate the web mode of data collection for the survey. This is available by calling the context menu for the questionnaire in the Survey Setup: Menu → Survey Setup → Web interview setup.

Depending on the objectives and implementation of the survey you may need to adjust the:

- templates for the web pages visible to the survey participants.

- templates for email messages that are sent as notifications to the survey participants.

At the next page the template messages for invitations/reminders/notifications may be edited and the web mode activated (the green START button) or deactivated (the red STOP WEB INTERVIEW button). Any generated links remain ineffective when the survey is not in the web mode even if the link has been already sent to the respondent.

### Deliver links

Depending on the scenario of the survey as outlined by the table in step #3, you will have one or multiple links to be delivered to the respondents. Note that in any of the cases, Survey Solutions doesn't send the invitations/notifications directly, but utilizes a special bulk email delivery service[16] to deliver the corresponding messages. Refer to the corresponding article on how to set it up. Once it is set up, one can go to *Menu → Survey Setup → your questionnaire name → Send invitations* in order send out the invitation emails (documentation available in Survey Solutions[17]).

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[16]https://docs.mysurvey.solutions/headquarters/cawi/email-providers/
[17] https://docs.mysurvey.solutions/headquarters/cawi/web-interviewing/
https://docs.mysurvey.solutions/headquarters/cawi/webpage-templates/

If this service is not set up by the server administrator, then it is his/her responsibility to distribute the appropriate messages among the respondents using any alternative tools. The links can be downloaded by going to Menu → Survey Setup → your questionnaire name → Download web links.

After the links have been sent to the respondents it is important not to change the responsible person for an assignment to anyone except an interviewer as this will invalidate it (you will get a warning if you try). Note that this may be an unintended indirect consequence of your actions, such as relocating an interviewer to another team leaving his assignments in the original team.

### Review incoming data

Once a CAWI survey is running, the interviews will appear in the list as soon as they are started. The respondents may still be working at them and their status will be *InterviewerAssigned*. This status is only attributable to CAWI interviews. Any interviews received from tablets will show up on the server already in the *Completed* status.

The supervisors are expected to review as soon as possible the interviews in the status *Completed*, and either to approve or reject them.

Note that even though there is a rejection notification template in the set of user-configurable notification templates for a survey, rejection notifications are NOT sent out at all, and the supervisor will need to manually reallocate the rejected interview to a real interviewer to follow up with the respondent by using phone (see CATI) or other communication.

### De-activate the web survey mode

When all the web assignments are completed or you've acquired the minimal desired number of responses, you can stop the web survey. When the web survey is stopped no changes will be permitted by the respondents visiting any links, whether to create new or finish started interviews.

### CAWI password rules

The password used for CAWI assignments must:
- consist of only uppercase English letters and digits;
- be at least 6 characters long.

Providing a single question mark '?' instead of the password will request Survey Solutions to automatically generate one compliant with the above rules.

### Continuing interviews

Some web interviews may be quite lengthy, difficult to fill out in one seating either because of the respondent not being available for so long, or because of the connectivity issues.

To continue working on the interview the respondent must open exactly the same URL he/she sees during the interviewing. This URL may be different from the one contained in the originally received invitation. The respondent may copy and preserve the URL from his/her browser's address line at any time. In addition, if the bulk email service is set up by the server administrator, the user will be asked for the contact email at the beginning of the interview. If the email is provided, a message containing the continuation link will be sent to that email. If the server administrator wants to disable this feature, he/she should uncheck the corresponding

option in the ***'Web interview settings'***: Menu → Administration → Settings → Web interview settings.
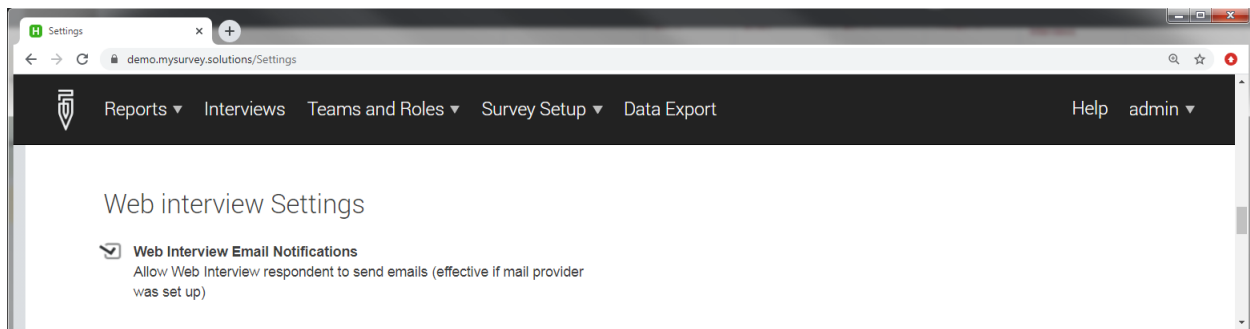
This setting is shared by all CAWI surveys on the same server.

## Survey Solutions Email Templates

Survey Solutions can send email notifications to the respondents to the web surveys (CAWI). These notifications can be configured at the web interview setup page: *Menu → Survey Setup → Questionnaires → YourQuestionnaire → Web interview setup.*

Survey Solutions server automatically determines, which notifications need to be sent out to the respondents. Every hour the notifications of the type marked with ^ in the table below are sent out, if a bulk email service provider[18] has been set up.

Notification emails may mention some of the text substitutions, which will be replaced with appropriate texts by Survey Solutions. They are mentioned in the descriptions below.

*Table 3 - Notification e-mails in Survey Solutions*

| Notification message | Message description |
|---|---|
| Invitation | An invitation message is sent to invite a respondent to participate in the survey. It contains a link that the respondent will follow to start an interview.<br>The invitation message may mention %SURVEYNAME%, which will be automatically replaced with the name of the survey.<br>The invitation message is sent out when the HQ chooses to **Send invitations**. (Click on the survey, select **Send invitations** from the context menu).<br>If the bulk email service provider is not set, the links to web interviews can be downloaded in a form of a file from the Survey Solutions server, and custom invitations generated and send in an external system. |
| Resume | A resume message is sent to the respondents to deliver a message containing a link that the respondent will follow to resume an interview if his/her session is disrupted for any reason. |

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[18] https://docs.mysurvey.solutions/headquarters/cawi/email-providers/

| | The message may mention %SURVEYNAME%, which will be automatically replaced with the name of the survey. The resume message is sent out when the respondent specifies his/her email and a bulk email sender is configured, and the admin of the Survey Solutions server opts to allow such messages by setting the **Web Interview Email Notifications** flag in the server settings. |
|---|---|
| No response | A no response message is sent to the respondents if they haven't started a survey interview. This reminder message is sent after a certain period of time after the invitation was sent out if the respondent hasn't started the interview yet. The exact duration of time for the reminder is regulated by the **Send reminder to people with no response** parameter at the web interview setup page. The conditions must be specified – details at: https://docs.mysurvey.solutions/headquarters/cawi/email-templates/ The message may mention %SURVEYNAME%, which will be automatically replaced with the name of the survey. The message is sent automatically if the bulk email sender has been configured. |
| Partial response | This notification message is sent to the respondents that have started but haven't completed a survey interview yet after a certain period of time. The exact duration of time for the reminder is regulated by the **Send reminder to people with a partial response** parameter at the web interview setup page. The conditions must be specified – details at: https://docs.mysurvey.solutions/headquarters/cawi/email-templates/ The message may mention %SURVEYNAME%, which will be automatically replaced with the name of the survey. The message is sent automatically if the bulk email sender has been configured. |
| Reject | This notification message is sent to the respondents whose interviews have been rejected by survey supervisors. The respondent is invited to make corrections based on the supervisor's comments/feedback. The message may mention %SURVEYNAME%, which will be automatically replaced with the name of the survey. The message is sent automatically if the bulk email sender has been configured. |
| Complete | This notification message is sent to the respondents who has completed an interview immediately when they complete it. The message may mention %SURVEYNAME%, which will be automatically replaced with the name of the survey. It may also mention in %-% signs any variable name from the main interview level (not inside of any roster) of a type supported in text substitutions, such as for example, *%address%* the value of which will be automatically substituted with a value entered by the respondent in the interview. For the categorical single select questions the default survey language is used for the text label |

| | corresponding to the selected answer regardless which language was used by the respondent at the time of the interview. The date and timestamp answers are written using an invariant date format. |
|---|---|
| | In the rare occasion when a question with variable name specifically SURVEYNAME is defined in an interview, the text substitution %SURVEYNAME% is resolved to the name of the survey, not the value of this variable. |
| | Optionally, the variable name may be suffixed with **:barcode** or **:qrcode**, such as for example: %product:barcode% or %checksum:qrcode%. Then the value of the corresponding variable will be rendered as a barcode or a qrcode respectively. For linear barcodes the <u>code 128</u> standard is used. For 2-dimensional qrcodes the <u>QR-code</u> standard is used. |
| | The message is sent automatically on completion of an interview if the bulk email sender has been configured and the flag *Send email after web interview completion* has been set. Otherwise, it is not sent. |
| | Optionally, a transcript of answers to interview questions can be attached to this message if the flag *Attach Pdf transcript* is set. |

The templates for each survey can be specified in only one language. If invitations/notifications for a survey need to be sent out in different languages, such survey must be split into two (or more) Survey Solutions surveys and email templates for them configured separately.

## Notification message structure

Each notification message consists of multiple blocks as seen below.

*Table 4 - Notification message structure*

| Message block | Block description |
|---|---|
| - *Subject* | This is the email subject line that the respondent will see in his/her inbox when the notification message arrives. |
| - *Main text* | This is the notification's message main text that the respondent will see when he/she opens the notification message. |
| - *Description for password* | Block describing to the participant that a password must be used to access the interview. This block is only utilized if the access to interview is protected with a password. |
| - *Start interview button* | Specific text appearing on the button to start the interview. |

## 3.2. Final recommendations for inter-census questionnaires

Through all shared questionnaires that were developed by INS could be found similar issues related to labeling of variables, validation conditions, enabling conditions, list and rooster questions. Several recommendations on how to avoid those issues are:

- All variables should have labels, otherwise it would be hard to identify the meaning of each of them without looking into the code.
- A validation condition launches when an answer was recorded for the question, for that reason validation conditions such "IsAnswered(self)" or "self != null" would never be launched. If it's needed to check if the answer for a particular question was provided it could be implemented within a static text.
- Use enabling conditions to implement skip patterns and avoid implementing them as validation conditions.
- Items in a list question and rosters triggered by a list question are not always in a numeric order, do not rely on a numeric order of those components in your expressions.
- Exceptions always should be predicted in expressions.

Nevertheless, it is useful that in the process of transformation of questionnaires into e-questionnaires, the staff of INS should consult all information (theory and practice) provided during the two five-day workshops dedicated to this scope and materialized into Output no. 6e - *Report on two (2) five-day workshops for NIS statisticians in methodologies and tools for transforming questionnaires in intelligent statistical e-questionnaires for the inter-census*" under same RAS Agreement.

# 4. Annexes

## Annex 1 – Households ICT Information Communication Technology Survey / TIC în gospodării (Ancheta privind accesul la tehnologia informațiilor și comunicațiilor în gospodării) /

1.1. The ICT (ICT usage in households and by individuals) questionnaire that was developed by the INS and provided for the review -
https://designer.mysurvey.solutions/questionnaire/details/a57cbf6d1a8c4e58b6adf7761ec34df2

1.2. The ICT questionnaire DRAFT with partly implemented modifications –
https://designer.mysurvey.solutions/questionnaire/details/4cddeb8181394c40b4ea759a4f4dffcb

## Annex 2 – EU-SILC - EU - Statistics on Income and Living Conditions / ACAV (Ancheta asupra calității vieții) /

2.1. EU-SILC (EU - Statistics on Income and Living Conditions) questionnaire that was developed by the INS and provided for the review -
https://designer.mysurvey.solutions/questionnaire/details/c4db0ee4655f4d62bb02d99a1185514d

2.2. The EU-SILC questionnaire DRAFT with partly implemented modifications -
https://designer.mysurvey.solutions/questionnaire/details/87738f41ec8347539acdd378c2115cd8

## Annex 3 - AES (Adult Education Survey) /AEDA (Ancheta privind educația adulților) /

3.1. The AES (Adult Education Survey) questionnaire that was developed by the INS and provided for the review -
https://designer.mysurvey.solutions/questionnaire/details/ea0d713a116f4743b213dd4909b5a7ca

3.2. The AES questionnaire DRAFT with partly implemented modifications -
https://designer.mysurvey.solutions/questionnaire/details/9ef816ac1c93439a9d95fd80bcd3f2d1

## Annex 4 - LFS (Labour Force Survey) / AMIGO (Ancheta forței de muncă în gospodării)

4.1. The LFS (Labour Force Survey) questionnaire that was developed by the INS and provided for the review -

https://designer.mysurvey.solutions/questionnaire/details/0baeb92129564cafbfa67d2c38f63cac

4.2. The LFS questionnaire DRAFT with partly implemented modifications  -
https://designer.mysurvey.solutions/questionnaire/details/f8fb25deea664dac9421cdc33f6656bb

## Annex 5 – EHIS - European Health Interview Survey / SANPOP (Ancheta de sănătate realizată prin interviu)

5.1. The SANPOP questionnaire that was developed by the INS and provided for the review  -
https://designer.mysurvey.solutions/questionnaire/details/bcce9815cf694b94a5d45cafa7e85d90

5.2. The SANPOP questionnaire DRAFT with partly implemented modifications  -
https://designer.mysurvey.solutions/questionnaire/details/ee68d3527ddd41c4bdfb4ec61d0130c7

## Annex 6 - HBS (Household budget survey) / ABF (Ancheta bugetelor de familiei)

6.1. The ver. 1 HBS (Household budget survey) CAPI questionnaire -
https://designer.mysurvey.solutions/questionnaire/details/f86a46edf7c74b76b7564db6a4cad652

6.2. The ver. 1 Household Diary CAPI questionnaire –
https://designer.mysurvey.solutions/questionnaire/details/865a6b245f9d4ae8afe5a21dad5738ab