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Co-VAL [770356] "Understanding value co-creation in public services for transforming European public administrations"

D2.3: Report summarizing cognitive testing plus the final questionnaire

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Document description	This deliverable describes the steps taken to develop the main survey questionnaire on the co-creation activities by public sector agencies responsible for providing services. The document includes the initial draft questionnaire (Annex A), the final questionnaire (Annex B) and a summary of the results of 54 cognitive testing interviews in the six partner countries.

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Document Revision History

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V0.1	15/01/2019	First draft	UM-MERIT
V0.2	20/02/2019	Internal review + external review comments	UM-MERIT USTL
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Executive Summary

The main task of WP2 is to design and implement a survey to measure the use of co-creation by public sector administrative agencies to develop innovations. This report describes the development and cognitive testing of the survey questionnaire. Survey implementation is described in D2.4.

For the purposes of designing the questions, co-creation is defined as "the involvement of potential users of a service or process innovation in the development of the innovation". Since there are other definitions of co-creation in widespread use, the term 'co-creation' (and other similar terms) is never used in the questionnaire. Instead, respondents are given short descriptions of activities that involve users in innovation activities.

The questionnaire is designed to be useful for the construction of indicators on the use co-creation and econometrics research into factors that influence the use of co-creation. Consequently, the questionnaire collects data on other activities such as inputs into innovation, information on the innovation culture of the respondent's organization, and the function of the respondent's department. Only six of the 23 questions in the questionnaire cover co-creation.

Question design involved two main steps. First, a review of existing questions on public sector innovation and co-creation in the literature was conducted (see D2.1). Only a few relevant questions of limited relevance to co-creation were identified, but the review did point to other useful questions on inputs and other topics (see Table 1). A first draft of the questionnaire was compiled from these sources, with new questions on co-creation developed using guidelines for good question design. Most of the questions focused on a single, user-reported 'most important innovation' to improve data quality and reduce respondent burden. The draft questionnaire was circulated among the WP2 partners for comments and revised accordingly.

The second step consisted of cognitive testing of 18 questions through face-to-face interviews in six countries with 54 respondents drawn from the target population for the survey. Four questions that had undergone cognitive testing in other research were not included. The number of interviews varied from 8 in Norway and the UK to 10 in France and the Netherlands. Cognitive testing was conducted in two phases, with some questions revised after Phase 1 and retested in Phase 2. Cognitive testing could result in one of four outcomes: fail, pass, pass with revisions, and major rewrite required (see Table 4). Only one question passed with no revisions. Five questions failed due to national differences in interpretation or because interviewees had difficulty understanding the question. A major rewrite was required for three questions to ensure that respondents could understand the question or to delete sub-questions with low comprehension rates.

To ensure that no unnecessary questions were included, all final questions were assessed for the reasons for their inclusion (see Table 5). These include the use of the question as 1) a control variable in regression analysis, 2) an independent variable for regression, 3) a dependent variable for regression, and 4) a focusing device. Due to possible failure of a question that can't be detected during cognitive testing (for instance low item response rates), it is important for surveys to include multiple options for dependent variables. This questionnaire includes six options: transformative characteristics of the most important innovation, outcomes of the most important innovation, measures of co-creation,

contribution of co-creation to outcomes, effects of the most important innovation on outcomes, and importance of factors hindering innovation.

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1 Introduction

The main task of WP2 is to use a survey to measure the use of co-creation by public sector administrative agencies to develop innovations. The goal is to collect statistically representative data, which requires a random sampling methodology (discussed in deliverable 2.4). This report describes the development and testing of the survey questionnaire.

There are two general challenges to measuring co-creation. The first is how the concept of co-creation is understood. This concept is abstract and usually used for describing strategies of value offerings in the private sector (Vargo and Lusch, 2004), although adaptation of the concept to the public sector is ongoing (Osborne, 2018). The proposed questionnaire tackles this challenge by adopting a clear definition of co-creation as "the involvement of potential users of a service or process innovation in the development of the innovation".

The second challenge is that public administrations are highly specific and differ due to national contexts and histories. Their structure, management styles and organizational codes differ from one country to another, making it difficult to produce a single questionnaire understood by all surveyed populations. The response to this challenge is methodological via the use of extensive cognitive testing. Face-to-face interviews of a prototype of the questionnaire were conducted with 54 public managers drawn from the population to be surveyed in all involved countries. This resulted in five revisions to the questionnaire.

The target population of managers includes those responsible for services, which include internal government services, services to businesses, and services to individual citizens or residents. However, respondents with no service innovations during the two-year observation period of the survey are asked to answer questions on the use of co-creation to develop process innovations. In this case, co-creation involves employees that use processes to produce a range of outcomes.

The survey data will be used to produce metrics such as indicators for the use of co-creation (for instance by the function of the government department, country, level of government, novelty of the innovation, etc.) and in econometric research into the factors that influence the use of co-creation and the correlation between co-creation use and a range of outcomes. In order to produce these metrics and analyses, the survey questionnaire needs to collect data on activities other than co-creation, such as other inputs into innovation, information on the innovation culture of the respondent's organization, the function of the respondent's department, outcomes from the use of co-creation, etc. Of the 23 questions in the final questionnaire, only six cover co-creation.

The following sections describe how the questionnaire was developed, including a review of other questionnaires on public sector innovation, guidelines for question design, cognitive testing, and the final structure of the questionnaire. The final questionnaire is provided in Annex C.

1.1 Ethics and privacy requirements

Cognitive testing is based on interviews and consequently must meet European Regulation 2016/679 for the processing of personal data, such as age, gender, occupation, etc. This restricts the use of personal data to the original purpose for which it was collected and agreed to (article 6) and provides for the retention of data for no longer than necessary (article 5). Article 6 requires that personal data is not shared or provided to other organizations for purposes that a person did not give consent to. In addition, universities in Europe can require ethics approval for research involving interviews.

European Regulation 2016/679 was met by outlining the purpose of the interview in an introductory letter and by obtaining verbal or written consent at the start of the interview. The relevant section in the introductory letter (see Annex A for a fully copy of the letter) states:

> No sensitive information will be collected during the interview, since the focus is on your understanding and ability to answer a sample of questions. Your responses will be kept entirely confidential and no information will be reported that could be used to identify you or your organisation. The results of your interview will only be used by Co-Val personnel for research on question design.

Of note, the cognitive testing did not collect any personal data other than opinions on questions. The use of a written consent form (see Annex A) depends on university ethics requirements. For example, a written consent form is not required in the Netherlands for interviews with managers on research that does not involve the health or personal characteristics of the respondent.

The lead institute for WP2, UM-MERIT, is based in the Netherlands where ethics approval is not required for business research, such as research on the activities of organisations. However, WP2 partners based in other countries may have required ethics approval to conduct cognitive testing interviews. All partners were provided with the cover letter and consent form in case these were required for their ethics applications.

2 Review of existing questions

As a first step, several existing questionnaires, summarized in Table 1, were evaluated as a source of possible questions or ideas for questions. Data on the number of cognitive testing interviews and the results of the interviews that were conducted as part of developing each survey were available for all surveys except for the APSC survey. Only the NESTA and LH Martin surveys included questions of relevance to co-creation. The NESTA survey included several questions on user involvement, while the LH Martin survey also included questions on the methods used to involve users.

The 'relevance' column in Table 1 refers to question topics that were considered in the design of the draft CO-VAL questionnaire, although items were often considered and rejected as impractical to obtain or not relevant to CO-VAL goals. Of note, the relevance column does not list all topics covered in each survey. Many topics, such as questions on 'who developed' the innovation in the NESTA and MEPIN surveys, were not covered in the CO-VAL questionnaire.

Table 1 Evaluated questionnaires on public sector innovation

Name	Coverage	Date	Number of cognitive testing interviews	Relevant topics covered in the survey
MEPIN	Iceland, Norway, Denmark, Sweden, Finland	2009	32	Drivers, information sources, innovation strategies, outcomes, obstacles
NESTA	UK	2011	7	Drivers, co-creation, information sources, innovation strategies
Innobarometer	EU-27 plus Norway	2010	0	Drivers, information sources, innovation strategies, outcomes and obstacles
APSC 2011	Australia	2011	unknown	Obstacles
APSII	Australia	2013	32	Function of the respondent's department, drivers, idea sources, innovation strategies, innovation investments, innovation characteristics, outcomes and obstacles.
DHHS	Australia	2014	0	Idea sources, innovation strategies, innovation investments, innovation characteristics
LH Martin	Australia, NZ	2016	13	Function of the respondent's department, co-creation, drivers, idea sources, innovation strategies, innovation investments, innovation characteristics, outcomes and obstacles.

For a list of references for these surveys and other information on questionnaire topics, see Arundel et al, 2019. Three of these questionnaires are available online in reports, including the Innobarometer questionnaire (http://ec.europa.eu/commfrontoffice/publicopinion/flash/fl_305_en.pdf), APSII (https://archive.industry.gov.au/innovation/publicsectorinnovation/Documents/APSII-Revised-Questionnaire.pdf), and the APSC questionnaire (https://resources.apsc.gov.au/2011/ESR1011.pdf).

3 Guidelines for question design and the draft questionnaire

Questions need to be designed to elicit accurate responses. This requires all respondents to be able to answer all questions. A major problem is respondents who answer a question without understanding it, often creating false positives. To ensure accuracy, good question design must be used and questions need to be cognitively tested, as discussed in the next section.

Several guidelines for good question design were followed:

1. Keep the questionnaire short. Respondents should be able to answer it in less than 20 minutes. This reduces respondent fatigue (which can reduce the quality of responses) and the non-response rate.
2. Questions should be explained simply and understandable without the need for the respondent to have a tertiary education.
3. Major concepts such as 'innovation' need to be defined.
4. Terms that are not understood by all respondents need to be avoided to prevent inaccurate answers, particularly false positives. This potentially includes terms such as 'co-creation', 'ethnographic research', and 'randomized trials'.
5. To reduce memory telescoping and other undesirable effects, all questions refer to activities in the 'last two years' only.
6. Respondents are asked to only answer questions (unless otherwise directed) for their work unit, defined as their 'area of responsibility, consisting of all employees under your direct management and that report to you'. The goal of this instruction is to improve accuracy by limiting answers to the respondent's own personal experience.

In addition, the WP2 project leaders agreed to limit most questions to a user-selected 'most important innovation'. This improves accuracy because the respondent only needs to think about a single innovation, rather than provide blended responses for possibly multiple innovations. For example, questions on innovation outcomes are limited to the most important innovation, instead of covering many innovations. This limitation also improves respondent recall for difficult questions on innovation expenditures or investments.

Using these guidelines, an initial questionnaire was developed by the WP2 project leaders on August 6 2018. The initial questionnaire was circulated to all CO-VAL partners, although responses and comments were only obtained from WP2 partners. The draft questionnaire that formed the basis of cognitive testing (see Annex A) contained 36 questions, more than can be included in a survey, but the goal was to filter out (or add) questions after discussion with the WP2 partners and after revisions due to cognitive testing. In total, the initial questionnaire was revised eight times.

The draft questionnaire contained four sections covering the topics shown in Table 2:

Table 2 Structure of the draft CO-VAL questionnaire

Section A	General information on the respondent (area of responsibility, time in current position, gender) and his or her work unit (number of employees, change in number of employees, function, main clients).
Section B	Data on the types of service and process innovations introduced in the respondent's work unit in the previous two years. This section also defines innovation.
Section C	General investments in innovation by the work unit plus the strategies of the respondent's organization to support innovation.
Section D	Questions limited to the respondent's self-selected most important innovation (MII). These cover: 1) original purpose, 2) transformative status, 3) source of the idea, 4) types of employees involved in its development, 5) target users, 6) state of implementation, 7) drivers, 8) investments in terms of dedicated funding or staff, 9) person months required to develop it, 10) development methods, including co-creation activities, 11) use of skilled experts, 12) information sources, 13) collaboration, 14) methods including co-creation, 15) types of data collected, including from users, 16) collection of user views by development stage, 17) contribution of users to outcomes, 18) outcomes, 19) obstacles.

The draft questionnaire covered service and process innovations separately. This meant that some questions had two versions: one for service innovation and one for process innovations.

4 Cognitive testing

Cognitive testing is the gold standard for question and questionnaire design, used by leading National Statistical Organizations world-wide, including in Australia, Canada, New Zealand, Sweden, Finland, Norway, France, the Netherlands, and Belgium. It is a time-consuming and consequently expensive process that requires interview expertise, using face-to-face interviews with respondents drawn from the target population of a survey.

The goal of cognitive testing is to ensure that all questions can be understood, as intended, by all respondents and that all respondents can provide reasonably accurate answers (Collins, 2003; DeMaio et al, 1993). This goal cannot be met with 100% certainty since there will always be survey respondents that fail to understand a question. However, the method reduces the probability of high rates of misunderstanding or that a seriously flawed question will be included in the questionnaire. Flawed or failed questions include those that are understood differently by various groups of respondents or which elicit incomparable or inaccurate answers. The results from failed questions either need to be excluded from all analyses or respondents need to be re-contacted to collect accurate data. The former can reduce the benefits of a survey while the latter can be very costly.

Cognitive testing asks interviewees to read questions and answer them. This is followed by probing to clarify the thought processes of the interviewee when answering the question, requests for respondents to describe a term in their own words, or give examples. For example, if they report a service innovation they are asked to describe the service innovation that they had in mind. Willis (2005) provides practical details for how to conduct cognitive testing.

UNU-MERIT provided training for WP2 partners on cognitive testing at the CO-VAL plenary meeting in Konstanz on September 27, 2018.

4.1 Cognitive testing of CO-VAL questions

Not all questions could be cognitively tested because this would require the interviews to exceed one hour, which is usually the maximum length of time that volunteers will agree to. In addition, long interviews can lead to fatigue on the part of both the interviewers and interviewees, resulting in poor results.

The questions excluded from cognitive testing include basic questions on the respondent that had been tested previously in multiple questionnaire surveys (for instance questions on gender or the number of employees in the respondent's work unit) and questions that had undergone extensive cognitive testing in previous surveys on public sector innovation.

Cognitive testing of the CO-VAL questionnaire was conducted in two phases. At the close of the first phase the questionnaire was revised, with the revised version tested in the second phase. The two

phase process permitted major issues to be addressed after phase 1, but other questions continued into phase 2 with no revisions.

Interviewees for cognitive testing do not need to be selected randomly, but they need to cover variation in the sample population. The CO-VAL survey was designed to be answered by mid and high level managers in municipal (local area) governments and national government departments with a responsibility for service provision. The goal for interviewee selection was to include approximately half of the interviewees from municipal governments and half from national governments. In addition, each gender needed to be adequately covered and the interviewees needed to be responsible for a variety of types of services (education, healthcare, business, etc.). All countries were able to cover a diversity of interviewees by gender, government level, and by type of service.

The standard questions were written in English. Questions for cognitive testing were translated into the national languages of the five participating countries for which English was not the mother tongue (French, Hungarian, Dutch, Norwegian, and Spanish). Table 3 provides an overview of the number of cognitive testing interviews for each of these five countries plus the UK. Of note, this is a large number of interviews and exceeds the interview count for all of the public sector innovation surveys listed in Table 1. The reason for this is to be able to test the questions in all countries, since there could be national differences in how questions are interpreted. With the exception of the MEPIN survey, all other surveys with cognitive testing were conducted in a single country.

Table 3 Number of cognitive testing interviews by country

Country	Phase 1	Phase 2	Total
France	5	5	10
Hungary	0	9	9
Netherlands	4	6	10
Norway	3	5	8
Spain	4	5	9
UK	4	4	8
Total	**20**	**34**	**54**

Table 4 lists the main questions that were cognitively tested in Phase 1 and 2, the results of the cognitive testing (failed, rewrite, passed) and the changes that were made to the questions. Of note, main questions are frequently followed by multiple sub-questions, each of which must also be cognitively tested.

In total, 18 questions were cognitively tested. Of these, five failed cognitive testing, three required major rewrites, nine required revisions, and only one passed with no revisions.

As noted above, several questions included in the final questionnaire did not undergo cognitive testing because of sufficient testing in previous survey research. These consisted of the following questions:

- A.1 “How many employees (head count) are in our work unit?
- A.2 “How long have you been in your current position?”
- B.2 “In the last two years, what percentage of your work unit’s employees were involved in work groups that met regularly to discuss or develop innovations?”
- C7a “Where did the idea for this most important innovation come from?” and C7b asking the respondent to select the most important idea source.

Main Question	Sub-questions	Phase 1	Phase 2	Results
Which best describes your area of responsibility?	No	Yes	Yes - revised	**FAILED** Due to national differences in interpretation in both Phase 1 and 2 versions, the question was dropped. Relevant data can be collected from the sample frame data.
Which of the following types of services was the primary purpose of your unit?	No	Yes	Yes – revised	**PASSED** with revisions. Phase 1 version revised to include more options, additional changes made after Phase 2 to include the target group for each type of service.
Types of services and process innovations.	Yes	Yes	Yes - revised	**PASSED** with revisions. Phase 1 version included separate questions for services and processes. These were combined into one question in Phase 2 with 10 types, which was reduced to 8 types for the final questionnaire.
Selection of a most important innovation (MII).	No	Yes	Yes - revised	**PASSED** with revisions. Complexity of instruction simplified between Phase 1 and 2.
Purpose of the MII.	Yes	Yes	Yes - revised	**PASSED** with revisions. Phase 1 asked separate questions for process and service innovations. This one combined into one question for Phase 2. The final question reduced the number of response options and changed their order.
Is this a transformative innovation?	No	Yes	Yes -revised	**Major rewrite**. Testing identified considerable confusion. The response options in the final version were fully disaggregated after unsuccessful results for different versions in Phase 1 and 2.
Person month required to develop and implement the MII.	No	Yes	Yes	**PASSED** with revisions. No difference between Phase 1 and 2, but the final question reduced the number of categorical response categories from 7 to 5. A second question on the number of external person months used passed testing, but was excluded from the final questionnaire to reduce response burden.
Types of government employees involved in the development of the MII.	Yes	Yes	Yes -revised	**FAILED** in several countries. Can instead use a question on the source of the idea and two questions on employee involvement in innovation.
Types of skilled experts actively involved in the development or implementation of the MII.	Yes	Yes	Yes -revised	**FAILED** because of confusion over the source of experts (within the unit, government, external contractors), poor understanding of some types, and overlap with other questions.

External methods to develop or implement this MII (conduct research, use external consultants, design consultancy, etc).	Yes	Yes	Yes -revised	**Major rewrite.** Revised to clarify expected inputs from external sources and to reduce overlap with other questions.
Internal methods for developing or implementing the MII.	Yes	Yes	Yes - revised	**Major rewrite.** Better specifications of sub-questions, plus deleted sub-question on randomized controlled trials because very few interviewees were familiar with these.
Collection of data on the experiences of users with the MII.	Yes	Yes	Yes	**PASSED** with revisions. The number of sub-questions was reduced and the description in the sub-questions revised.
Collection of user opinions at five different stages in the development process for the MII.	Yes	Yes	Yes	**FAILED** because many interviewees did not recognize the five proposed stages.
Views and experiences of users collected at more than one of the five stages for the MII.	Yes	Yes	Yes	**FAILED** because many interviewees did not recognize the five proposed stages.
Contribution of involving users to outcomes of the MII.	Yes	Yes	Yes	**PASSED** with no revisions.
Outcomes of the MII	Yes	Yes	Yes – revised	**PASSED** with revisions. Phase 1 used separate questions for service and process MIIs. These were combined into one question in Phase 2. The final question deleted one sub-question that overlapped with others and divided another into two sub-questions.
Obstacles faced by the MII	Yes	Yes	Yes – revised	**PASSED** with revisions. Four obstacles added for Phase 2.
Effect of the MII on costs	No	No	Yes	**PASSED** with revisions. Response options substantially simplified from categorical boundaries (increase costs by over 10% etc.) to increase, no change, decrease.

Table 4 Cognitive testing results for the CO-VAL questionnaire

5 Final questionnaire

The final dataset will include several variables from 1) information collected for each respondent for the sampling frame and 2) from the survey responses. The former variables include the country, national or municipal/local government, type of department within the government, job level of the respondent (useful only for analyses within a country as this variable is not comparable across countries), and the respondent's gender.

Table 5 lists the questions in the final questionnaire and the reasons for their inclusion. The reasons are given for regression analysis and include use as a control, independent, or dependent variable. Some variables can be used as both an independent and dependent variable, depending on the research question. The main dependent variables include 1) the use of co-creation (a variable can also be constructed for the intensity of co-creation), 2) outcomes including to reduce costs, 3) the transformative characteristic of the MII, 4) innovation outcomes, and 5) obstacles to innovation.

Table 5 Final questions and their reasons for inclusion

	Question	Reason for inclusion
A.1	How many employees are in your work unit?	Control variable: Use of co-creation and the probability of innovating could increase with the size of the work unit.
A.2	How long have you been in your current position?	Control variable: Greater experience could influence the use of co-creation or outcomes.
A.3a	In the last two years, did your work unit provide any of the following types of services? (List of 10 types plus 'other').	Independent variable: Use of co-creation could be influenced by the types of services provided by the work unit.
A.3b	If you selected more than one type of service, which was the main type of service provided by your work unit?	Independent variable: Use of co-creation could be influenced by the types of services provided by the work unit.
B.1	In the last two years, did your work unit implement any innovations with the following characteristics? (List of 8 characteristics plus 'other').	Independent variable: Use of co-creation could be influenced by the types of innovations provided by the work unit, which can include service and process innovations.
B.2	In the last two years, what percentage of your work unit's employees were involved in work groups that met regularly to discuss or develop innovations?	Independent variable: This is a measure of staff engagement in innovation. The use of co-creation and innovation outcomes could be influenced by the strategies used to support innovation.
B.3	In the last two years, how well do the following apply to your organization? (List of 5 strategies to support innovation).	Independent variable for organizational strategies to support innovation, plus the organizational culture of innovation and approach to risk taking. These could influence the use of co-creation and outcomes.
C	All of the following questions refer to the most important innovation (MII) selected by the respondent	
C.1	Please describe the most important service innovation that was partly or entirely developed by your work unit in the last two years. (or a process innovation if no service innovation).	The questions focuses the respondent's mind on a single innovation. Text can be used to classify the innovation by type (service or process, if it has environmental goals, etc.

C.2	To what degree has this MII been implemented?	Control variable for MII outcomes: quality of outcome data should be better for fully implemented innovations than for partially implemented innovations.
C.3	Who are the users of your work unit's MII?	Independent variable for co-creation: Probability of co-creation and other strategies to support the MII could vary by the target group, which includes individual citizens or residents, businesses, other government departments, etc.
C.4	Was the original purpose of this MII to: (list of 7 purposes plus 'other').	Independent variable: Use of co-creation and other innovation support strategies could vary by the purpose of the MII, such as to reduce costs or provide quality improvements.
C.5	In your opinion, does this MII: (list of 4 characteristics of entirely new versus improved services or processes).	Dependent variable / independent variable: Responses can be used to construct a variable that measures the 'transformative' characteristics of the MII.
C.6	What is the expected effect of this MII on the costs of your processes or services? (List of 4 effects plus 'Don't know').	Dependent variable: type of outcome for the MII. Can also be used as independent variable for the use of co-creation.
C.7a	Where did the idea for this MII come from? (List of 8 sources plus 'other').	Independent variable: More effort could be put into an idea from top management than from front line staff. Also a measure of the diversity of idea sources, which could influence the choice of support strategies to develop the MII.
C7.b	Which was the most important source of the idea for this innovation?	Independent variable: More effort could be put into an idea from top management than from front line staff.
C.8	How important were the following factors in driving the development of this MII? (List of 6 factors plus 'other').	Independent variable: Use of co-creation and outcomes can differ by the reasons for developing the MII.
C.9	Did your work unit receive any extra funding or staff specifically to develop this MII?	Independent variable: Investments in the MII could influence outcomes.
C.10	Approximately how many person months of government employees were required to develop and implement this MII?	Independent variable: Investments in the MII could influence outcomes. The data can also be used to estimate the difficulty or complexity of the MII.
C.11	Did your work unit obtain assistance, advice, technology or other inputs to the development of this MII from the following sources? (List of 6 sources).	Independent variable: different types of sources plus the diversity of sources could influence the use of co-creation and outcomes.
C.12	Were the following methods used to develop your work unit's MII? (list of 8 methods)	Independent variable: Either complementary or alternative sources to co-creation that could influence outcomes.
C.13	Were the following methods used to obtain input from users for the development of this most important innovation? (list of 5 methods).	Dependent variable / independent variable: Measures of co-creation.
C.14	Was this MII evaluated after completion?	Control variable: Outcome data should be more accurate if the MII was evaluated.
C.15	How important was the contribution of users to the development of your MII to the following outcomes? (list of 6 outcomes).	Dependent variable: Value of the use of co-creation.

C.16	What effects did this MII have on the following outcomes (list of 9 outcomes plus 'other').	Dependent variable: outcomes that can be linked to the use of co-creation and other strategies to support innovation.
C.17	How important were the following factors in hindering the development of this MII? (list of 12 outcomes)	Dependent variables / independent variable: For former, relevant to research on the methods that managers use to work around obstacles, for the latter can influence outcomes.

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ANNEX A: Invitation letter for interviews and interview consent form

A.1 Invitation/ information sheet for cognitive interviewees

Dear [Name],

I am writing to ask for your participation in an interview as part of research on the development of new or improved service innovations in the public sector. The study, called Co-Val, is part of the Horizon 2020 research programme and is funded by the European Commission, with universities in five other European countries also conducting interviews. The goal of Co-Val is to provide practical recommendations for how public sector organisations can improve the development and outcomes of their services. The project researchers include myself, [NAME] and [NAME] of [INSTITUTION].

Part of the Co-Val research involves a survey questionnaire on the methods that public sector organisations use to develop and implement services. The questionnaire will ask about the use of information sources, the role of different drivers and barriers in developing services, and questions on how new or improved services are developed. In addition to [COUNTRY NAME of potential interviewee], the survey will be conducted in [NAMES OF 5 OTHER COUNTRIES], with approximately 3,700 public sector managers in total receiving the survey questionnaire.

Survey questions first need to be tested in interviews with a small sample of potential respondents to ensure that the questions are understood as intended and that respondents can answer them with a reasonable level of accuracy. Many questions often fail this stage. As you can imagine, it is very important to identify problems with questions before they are included in a large survey.

You were identified as a potential interviewee by [EXPLANATION OF SOURCE]. If you would like to participate, the interview will be conducted by myself and [NAME] and can take place at your workplace. The interview will require approximately 45 to 60 minutes of your time. No sensitive information will be collected during the interview, since the focus is on your understanding and ability to answer a sample of questions. Your responses will be kept entirely confidential and no information will be reported that could be used to identify you or your organisation. The results of your interview will only be used by Co-Val personnel for research on question design.

Your participation is entirely voluntary, but would be highly valued and help to ensure that project results in a questionnaire that is well understood by potential respondents. We will contact you by telephone within a few days to ask if you are willing to participate. Even if you agree, you may change your mind at any time. If you do not wish to participate, or if you would like more information, please contact me at [NUMBER] or send an email to [EMAIL ADDRESS].

Best regards,

[NAME]
[INSTITUTION]

[Ethics approval details if needed]

A.2 Co-Val consent form: Survey on new or improved services in public sector organisations

1. I agree to take part in the research study named above.
2. I have read and understood the cover letter for this study.
3. The nature and possible effects of the study have been explained to me in person.
4. I understand that the study involves my participation in an interview about how I understand several questions on innovation and my views on the accuracy of my answers.
5. I understand that participation involves no foreseeable risks because none of my answers to the actual questions will be kept.
6. Any questions that I have asked have been answered to my satisfaction.
7. I understand that the researcher(s) will maintain confidentiality and that any information I supply to the researcher(s) will be used only for the purposes of the research.
8. I understand that the results of this interview, if included in a publication, will be presented in such a way that neither myself nor my organisation can be identified.
9. I understand that my participation is voluntary and that I may withdraw at any time without any effect.

   If I so wish, I may request that any data I have supplied be withdrawn from the research until [date].

Participant's name: _____

Participant's signature: _____

Date: _____

ANNEX B: Initial Draft Questionnaire

1 October, 2018

PART A: General information

A.1. Which best describes your area of responsibility?

(Tick **one** box only)

a) A national agency or ministry / municipality ..... ☐
b) A sub-section of a national agency or ministry /municipality ..... ☐
c) Yourself only (No other staff with the possible exception of a personal assistant) ..... ☐
d) Other ..... ☐

[if A1 = c, go to end of questionnaire]

Except when the question refers to your organization, please answer all questions for your **unit, defined as your area of responsibility**. Do not report results for other units or divisions of your department, agency or municipality for which you are not responsible. The questions on your organization refer to the agency, ministry or municipality of which your unit is a part.

A.2. How long have you been in your current position?

(Tick **one** box only)

a) Less than six months ..... ☐
b) Six months to less than 2 years ..... ☐
c) 1 year to less than 2 years ..... ☐
d) 2 years to less than 5 years ..... ☐
e) 5 years or more ..... ☐

[If less than one year]
If necessary, please seek the assistance of other staff if you cannot answer a question.

A.3. What is your gender*?*

*(Tick **one** box only)*

a) Male ..... ☐
b) Female ..... ☐
c) Other ..... ☐

A.4. How many employees (head count) does your unit currently have?

(Tick **one** box only)

a) Less than 10 ..... ☐
b) 10 to 49 ..... ☐
c) 50 to 249 ..... ☐
d) 250 to 499 ..... ☐

e) 500 or more ☐
f) Don't know ☐

A.5. Compared to one year ago, has the number of employees in your unit:

(Tick **one** box only)

a) Increased by 10% or more ☐
b) Increased by up to 10% ☐
c) Not changed at all ☐
d) Decreased by up to 10% ☐
e) Decreased by 10% or more ☐
f) Don't know ☐

A.6. Which of the following type of services was the **primary** purpose of your unit in the last two years?

(Tick **one** box only)

A) Delivery of educational services to individuals (citizens, residents, etc) ☐
B) Delivery of health services to individuals (citizens, residents, etc) ☐
C) Delivery of social welfare services to individuals (citizens, residents, etc) ☐
D) Delivery of community services (recreation, transportation, housing, etc) ☐
E) Delivery of services to businesses ☐
F) Information technology (IT) services to government ☐
G) Internal services to government (accounting, legal, regulatory, policy, public relations, human resources etc.) ☐
H) Defense, protection or security services ☐
I) Environmental services ☐
J) Other services (please specify) ☐

If your unit has a **secondary** type of service, give the corresponding letter: _____

A.7. Who were the clients or users for your unit's services in the last two years?

(Tick **all** that apply)

a) Other units of your organisation ☐
b) Other government departments or agencies ☐
c) Not-for-profit organizations or Non Governmental Organisations (NGOs) ☐
d) Universities or public research organisations ☐
e) Individuals (citizens, residents, etc) ☐
f) For profit businesses or business associations ☐

PART B: Types of Innovations

An innovation is a new or substantially changed service or process with a goal of delivering better outcomes. For the purpose of this survey, please note:

1. *The innovation **need only be new or substantially changed for your unit**. It may have already been in use by other governments or by businesses.*
2. *An innovation must have been fully or close to fully **implemented** in the last two years.*
3. ***Service and process innovations can occur together**. In question B2 below, include both stand-alone process innovations and process innovations linked to service innovations.*

Service Innovations

B.1. Did your unit implement any new or substantial changes to the following types of services in the last two years? *A service is provided to individuals, businesses or other government units outside your unit.*

(Tick **all** that apply)

a) Services for use by other government organizations ☐
b) Services for use by individuals (citizens, residents, etc) ☐
c) Services for use by citizen groups or NGOs ☐
d) Services for use by businesses ☐
f) Other type of service [please describe] ☐
g) No or not applicable ☐

Process Innovations

B.2. Did your unit implement any new or substantial changes to the following types of processes in the last two years?

(Tick **all** that apply)

a) Processes for producing or delivering services ☐
b) Supporting activities (maintenance, purchasing, accounting, human resources, etc.) ☐
c) IT systems (websites, purchasing, accounting, etc.) ☐
d) Organisational structure of work responsibilities or decision making. ☐
e) Methods for communicating your services to individuals or businesses, including internet interfaces. ☐
f) Other type of processes [please describe] ☐
i) No or not applicable ☐

PART C: Investment in innovation

C1. In the last two years, what percentage of your unit's employees were involved in work groups that met regularly to develop or implement new or substantially changed innovations? *Include all of your unit's ongoing and temporary employees.*

(Tick **one** box only)

a) None ☐
b) Less than 25% ☐
c) 25% to less than 50% ☐
d) 50% to less than 75% ☐
e) 75% or more ☐
f) Don't know ☐

C.2. In the last two years, did your unit receive funds **specifically** for the cost of developing or implementing new or substantially changed services or processes?

(Tick **one** box only)

a) Yes ☐
b) No ☐
c) Don't know ☐

C.3. Does your **organisation** have an innovation strategy?

(Tick **one** box only)

a) Yes, but not written ☐
b) Yes, and written ☐
c) No ☐
d) Don't know ☐

C.4. In the last two years how well did the following apply to your **organisation**?

(Tick **one** box per row)

	Not at all	Partly	Fully
a) There is a system in place for evaluating and developing innovative ideas put forward by staff	☐	☐	☐
c) Top management gives high priority to new ideas or new ways of working	☐	☐	☐
d) Top management supports trial-and-error testing of new ideas	☐	☐	☐
e) Top management supports taking risks to support an innovation	☐	☐	☐
f) Top management supports a positive innovation culture that includes all employees	☐	☐	☐
g) Employees are highly motivated to think of new ideas and take part in their development	☐	☐	☐
h) Employees have a feeling of empowerment and ownership of their work	☐	☐	☐

PART D: Your Most Important Innovation

D.1 In a few sentences, please describe in the box below your unit's most important service innovation in the last two years. If your unit did not have a service innovation, describe your most important process innovation.

*For a **service** innovation, "importance" is defined in terms of the expected or realized benefits of this innovation to its users (government, businesses, individuals, etc.).*

*For a **process** innovation, importance is defined in terms of its expected or realized benefits in terms of costs, quality, efficiency, etc.*

NOTE: Some innovations combine service and process innovations. In this case, answer the questions for a service innovation.

D.2. For a most important **service** innovation, was its original purpose to:

(Tick **all** that apply)

a) Address social challenges ☐
b) Replace or improve a previous service ☐
c) Provide an entirely new service ☐
d) Provide significant cost savings ☐
e) Provide significant quality improvements for users ☐
f) Improve the user experience of this service ☐
g) Improve the uptake of this service by potential users ☐
h) Other ☐

D.3. For a most important **process** innovation, was its original purpose to:

(Tick **all** that apply)

a) Replace or improve a previous process ☐
b) Provide an entirely new process (for instance to support a new service) ☐
c) Provide significant cost savings ☐
d) Provide significant quality improvements ☐
e) Improve efficiencies ☐
f) Other ☐

D.4. In your opinion, is this a **transformative innovation,** in the sense that it will completely change how things are done, provide large cost savings, including beyond your organisation, or create an entirely new and important service?

(Tick **all** that apply)

a) Yes ☐
b) No ☐
b) Don't know ☐

D.5. Where did the idea for this most important innovation come from?

(Tick all that apply)

A) Elected politicians ☐
B) Top level managers in your organisation ☐

C) Yourself or your management group ☐
D) Staff at levels below your management group ☐
F) Other government organisations (include good practices examples) ☐
E) Individuals (citizens, residents, etc) ☐
G) For-profit businesses ☐
H) Community groups or non-profit organisations ☐
I) Other ☐

Which of the above was the most important source of the idea for this innovation?
_____ (insert letter)

D.6. Were any of the following types of government employees actively involved in the development or implementation of this most important innovation?

(Tick **all** that apply)

a) Top government managers ☐
b) Middle level government managers ☐
c) Government employees from other departments or agencies than your own ☐
d) Front line staff ☐
e) Other ☐

D.7. Who are the target users of this most important innovation?

(Tick **all** that apply)

a) Governments, including government employees ☐
b) Individuals (citizens, residents, etc) ☐
c) Businesses ☐
d) Community groups or non-profit organisations ☐
e) Other ☐

D.8. To what degree has this most important innovation been implemented?

(Tick **one** box only)

a) Currently a pilot or trial ☐
b) Partially implemented, with continuing improvements underway ☐
c) Completely implemented ☐

D.9. How important were the following Government or legislative factors in driving the development and implementation of this most important innovation?

	Degree of importance (Tick **one** box per row)			
	None	Low	Medium	High

a) An increase in your unit's budget	☐	☐	☐	☐
b) A decrease in your unit's budget	☐	☐	☐	☐
c) New laws or regulations	☐	☐	☐	☐
d) New government policies or priorities	☐	☐	☐	☐
e) A problem or crisis requiring an urgent response	☐	☐	☐	☐
f) Changes required by other government organisations	☐	☐	☐	☐
g) Demand from individuals or community groups	☐	☐	☐	☐
h) Demand from businesses or other organisations	☐	☐	☐	☐

Inputs into this innovation

D.10. Did your unit receive any extra funding or staff specifically to develop this most important innovation?

(Tick **all** that apply)

a) Extra funding ☐

b) Extra staff ☐

If yes: How many new employees were hired for this reason? _____

b) No extra staff or funding received ☐

D.11. Approximately how many person months of **government employees** were required to develop and implement this most important innovation?

Count all time, in person months, spent by government employees on developing this innovation from the initial idea until the implementation was completed. Include time expended before the last two years. Exclude time by external consultants.

(Tick **one** box only)

a) None ☐

b) Less than 1 month ☐

c) 1 month to less than 3 months ☐

d) 3 months to less than 6 months ☐

e) 6 months to less than 12 months ☐

f) 12 months to less than 24 months ☐

g) 24 months or more ☐

h) Don't know ☐

D.12. Approximately how many person months of **paid external consultants** were used to develop and implement this most important innovation?

Count all time in person months spent by paid external consultants on developing this innovation from the initial idea until the implementation was completed. Include time expended before the last two years. Exclude time by government employees or volunteers.

(Tick **one** box only)

a) None ☐
b) Less than 1 month ☐
c) 1 month to less than 3 months ☐
d) 3 months to less than 6 months ☐
e) 6 months to less than 12 months ☐
f) 12 months to less than 24 months ☐
g) 24 months or more ☐
h) Don't know ☐

D.13. Did your unit use any of the following methods to develop or implement this most important innovation?

(Tick **all** that apply)

a) Conduct research or experiments in-house ☐
b) Contract out research to universities or public research institutes ☐
c) Contract external consultants or businesses for research or advice ☐
d) Use the services of a design consultancy, innovation lab, or living lab ☐
e) Purchase or develop specialised software or ICT equipment ☐
f) Use a dedicated space for workshops and other related activities ☐
g) Assign one individual to take responsibility for this innovation ☐
h) Assign a dedicated team to this project ☐
i) None of the above ☐

D.14. Which of the following types of skilled experts were actively involved in the development or implementation of this most important innovation?

(Tick **all** that apply)

a) IT or software experts (government or external experts) ☐
b) Other technology experts (government or external experts) ☐
c) Designers (government or external experts) ☐
d) Other ☐

D.15. How important were the following sources of information for developing and implementing this most important innovation?

Degree of importance
(Tick **one** box per row)

	None	Low	Medium	High

a) Other units of your organisation	☐	☐	☐	☐
b) Examples of 'good practice' by other government organisations	☐	☐	☐	☐
c) Professional associations	☐	☐	☐	☐
d) Publicly available publications or databases	☐	☐	☐	☐
e) Participation in conferences by you or your staff	☐	☐	☐	☐
f) For profit businesses, consultants or business associations	☐	☐	☐	☐
g) Not-for-profit organizations or Non Governmental Organisations (NGOs)	☐	☐	☐	☐
h) Feedback and comments from individuals (citizens, residents, etc)	☐	☐	☐	☐
i) Reports / research by universities and public research organisations	☐	☐	☐	☐
j) International organizations, agencies or associations	☐	☐	☐	☐
k) Other sources not listed above	☐	☐	☐	☐

Collaboration and involvement of users

D.16. Did the development and implementation of this most successful innovation involve collaboration with the following organisations or individuals (either domestic or foreign)?

Collaboration requires both parties to actively contribute to the innovation and to share knowledge – exclude pure consulting such as expert reports, etc.

(Tick **all** that apply)

a) Other units of your organisation ..... ☐
b) Other government organisations outside your department, agency or municipality ..... ☐
c) Community groups or Non Governmental Organisations (NGOs) ..... ☐
d) Universities or public research organisations ..... ☐
e) For-profit businesses, consultants or business associations ..... ☐
f) Individuals as potential users of the innovation ..... ☐
g) No collaboration was involved ..... ☐

D.17. Were the following methods used to develop or implementation this most important innovation?

(Tick **all** that apply)

a) Research or brainstorming to identify challenges to be addressed by this innovation ..... ☐
b) Profiling to identify the different types of potential users of this innovation ..... ☐
c) Generation of ideas to solve the challenges to be addressed by this innovation ..... ☐
d) Workshops to develop ideas into a prototype of the innovation ..... ☐
e) Blueprinting to produce a visual chart of how individuals interact with this innovation, including back office staff, front office staff and individuals (in the case of services) ..... ☐
f) For services, "customer journey maps" to identify where individuals interact with the service delivery system ..... ☐
g) Pilot testing of the innovation under realistic conditions ..... ☐
h) Randomized controlled trial of the innovation under realistic conditions ..... ☐
i) Evaluation of user experiences after implementation ..... ☐
j) Other ..... ☐
k) None of the above ..... ☐

D.18. Were data on the experience of potential users of this most important innovation gathered using the following methods? *(users of process innovations consist of government employees responsible for process activities)*

(Tick **all** that apply)

a) Analysis of existing data such as user evaluations of similar services or processes, complaints, internet data, etc. ..... ☐
b) Inclusion of users in brainstorming workshops ..... ☐
c) Face-to-face interviews with potential users ..... ☐
d) Focus groups with potential users ..... ☐
e) Real-time studies of how individuals use and experience services or processes (also called observational or ethnographic research) ..... ☐
f) Online questionnaires ..... ☐
g) None of the above ..... ☐

D.19. Were the opinions and views of potential users of this innovation gathered for the following development and implementation stages?

(Tick **all** that apply)

a) Identification of challenges to be addressed by the innovation. ..... ☐
b) Generation of ideas on how to solve identified challenges. ..... ☐
c) Development and testing of a prototype ..... ☐
d) Pilot testing or randomized controlled trial ..... ☐
e) Post implementation experiences ..... ☐
f) None of the above ..... ☐

D.20. Were the experiences and views of the same potential users collected for more than one stage of the development to implementation process?

a) Yes, but not for all stages. ..... ☐
b) Yes, the same potential users participated in two or more stages ..... ☐
c) No ..... ☐

Outcomes from involving users

D.21. How important was the contribution of users in developing this most important innovation to the following outcomes?

	Level of benefit (Tick **one** box per row)			
	None	**Low**	**Medium**	**High**
a) Reduced development costs	☐	☐	☐	☐
b) Reduced development time	☐	☐	☐	☐
c) Reduced need to revise the service or process after implementation	☐	☐	☐	☐
d) Improved fit with user needs (uptake, acceptance, etc.)	☐	☐	☐	☐
e) Improved quality	☐	☐	☐	☐
e) Reduced risk of innovation failure	☐	☐	☐	☐

Outcomes of the most important innovation

D.22a. For service innovations: What effects did this most important innovation have on the following outcomes?

	Negative effect	**Minor positive effect**	**Major positive effect**	**Too early to estimate**	**Not relevant**
a) Delivery time	☐	☐	☐	☐	☐
b) Ability to target the service to those who need it	☐	☐	☐	☐	☐
c) Number of individuals able to access the service	☐	☐	☐	☐	☐
d) User experience of the service	☐	☐	☐	☐	☐
e) Relevance of the service to user needs	☐	☐	☐	☐	☐
f) User access to information	☐	☐	☐	☐	☐
g) Employee satisfaction or working conditions	☐	☐	☐	☐	☐
h) Cost of providing the service	☐	☐	☐	☐	☐
i) Service quality	☐	☐	☐	☐	☐
j) Other	☐	☐	☐	☐	☐

If you selected “Other” please describe:

_____

_____

D22b. For process innovations: What effects did this most important innovation have on the following outcomes?

	Negative effect	**Minor positive effect**	**Major positive effect**	**Too early to estimate**	**Not relevant**
a) Simplifying procedures	☐	☐	☐	☐	☐

	Negative effect	Minor positive effect	Major positive effect	Too early to estimate	Not relevant
b) Employee satisfaction or working conditions	☐	☐	☐	☐	☐
c) Reducing costs	☐	☐	☐	☐	☐
d) Time to deliver of services	☐	☐	☐	☐	☐
e) Other	☐	☐	☐	☐	☐

If you selected "Other" please describe:

_____

_____

Outcomes to developing or implementing this innovation

D.23. How important were the following factors as obstacles to the development or implementation of this most important innovation?

	Degree of importance			
	None /Not relevant	Low	Medium	High
a) Political or top management pressure for fast development and implementation	☐	☐	☐	☐
b) Lack of a supportive culture for innovation in your organization	☐	☐	☐	☐
c) Lack of top management support and buy-in	☐	☐	☐	☐
d) Concerns over risk (failure, poor publicity, technical difficulty, etc.)	☐	☐	☐	☐
e) Lack of knowledge on how to innovate within your organisation	☐	☐	☐	☐
f) Difficulties in finding potential users to participate in developing this innovation	☐	☐	☐	☐
g) Management resistance to including user input in the design of this innovation	☐	☐	☐	☐
h) Regulatory barriers or legal obstacles to including user input in the design of this innovation	☐	☐	☐	☐
i) Insufficient financial resources	☐	☐	☐	☐
j) Insufficient staff to work on developing this innovation	☐	☐	☐	☐
k) Insufficient societal demand (i.e. from individuals or businesses)	☐	☐	☐	☐
l) Other	☐	☐	☐	☐

ANNEX C: FINAL CO-VAL Questionnaire on Co-creation

A: General information

*This questionnaire defines your **work unit** as your area of responsibility, consisting of all employees under your direct management that report to you.*

*Your **organization** is defined as the government entity that employs you. This could be an agency, ministry or department within a municipality, regional government, national government, or organization that works for several levels of government.*

***With a few identified exceptions, answer all questions in respect to your work unit**. Do not report activities for other work units, divisions or departments of your organization for which you are not responsible.*

A.1. How many employees (head count) are in your work unit? Count all employees that report to you or form part of your team.

(Tick one box only)

a) Less than 10 ☐
b) 10 to 49 ☐
c) 50 to 249 ☐
d) 250 or more ☐
e) Don't know ☐

A.2. How long have you been in your current position?

(Tick **one** box only)

a) Less than six months ☐
b) Six months to less than two years ☐
c) Two years to less than five years ☐
d) Five years or more ☐

A.3a. In the last two years, did your **work unit** provide any of the following types of services? (Tick **all** that apply)

A) Educational services to individual citizens or residents ..... ☐
B) Health services to individual citizens or residents ..... ☐
C) Social welfare services to individual citizens or residents ..... ☐
D) Information or communication services to individual citizens or residents ..... ☐
E) Recreation or cultural services to individual citizens or residents..... ☐
F) Services to businesses or business associations..... ☐
G) Defense, protection or security services ..... ☐
H) Housing or urban planning services..... ☐
I) Infrastructure services (waste disposal, transportation, traffic management, etc.) ..... ☐
J) Services to your organization or to other government organizations (information technology, accounting, procurement, legal, regulatory, policy, public relations, human resources etc.) ..... ☐
K) Other services (please specify)..... ☐

A.3b. If you selected more than one type of service, which was the main type of service provided by your work unit?

Give the corresponding letter: _____

B: Innovation Activities

*For this questionnaire, an innovation is defined as a new or improved **service or process** (way of doing things) that **differs significantly** from your **work unit's** previous services or processes. Please note:*

*An innovation **must only be new or substantially changed for your work unit**. It may have already been used by other work units within your organization, other governments, or by businesses.*

*An innovation must be partly or fully **implemented**. For example, a service innovation must be offered to users (governments, citizens, residents etc.), while a process innovation needs to be used by government employees.*

***Innovations can have multiple characteristics.** For example, a new service can be combined with improved processes for delivering the service.*

B.1. In the last two years, did your **work unit** implement any innovations with the following characteristics? *(Exclude innovations that were <u>only</u> implemented by other work units in your organization)*

(Tick **all** that apply)

a) Services for use by other government organizations (national, regional, municipal, etc.) ..... ☐
b) Services for use by individuals (citizens, residents, etc.) ..... ☐
c) Services for use by community groups or non-profit organizations..... ☐
d) Services for use by businesses or business associations ..... ☐
e) Supporting activities for your work unit or organization (IT, maintenance, purchasing, accounting, human resources, etc.)
f) Processes for producing or delivering services ..... ☐
g) Organization of work responsibilities or decision-making ..... ☐
h) Methods for communicating your services to individuals or businesses. ..... ☐
i) Other (please describe) ..... ☐

j) None of the above: no innovations in the last two years..... ☐

B.2. In the last two years, what percentage of your **work unit's** employees were involved in work groups that met regularly to discuss or develop innovations? *Include all of your work unit's ongoing and temporary employees.*

(Tick **one** box only)

a) None ..... ☐
b) Less than 25% ..... ☐
c) 25% to less than 50% ..... ☐
d) 50% to less than 75% ..... ☐
e) 75% or more ..... ☐
f) Don't know ..... ☐

B.3. In the last two years how well did the following apply to your **organization**?

(Tick **one** box per row)

	Fully	**Partly**	**Not at all**
a) Senior management gives high priority to new ideas or new ways of working	☐	☐	☐
b) Senior management supports taking risks in order to innovate	☐	☐	☐
c) Senior management supports a positive innovation culture that includes all employees in innovation activities	☐	☐	☐
d) Employees are highly motivated to think of new ideas and take part in their development	☐	☐	☐
e) Employees have a feeling of empowerment and ownership of their work	☐	☐	☐

C: Your Work Unit's Most Important Innovation

C.1. In a few sentences, please describe the most important **service** innovation that was **partly or entirely developed by your work unit** in the last two years. If your work unit had no service innovations, describe your most important process innovation. ("*Importance" is defined in terms of the expected or realized benefits of this innovation.)*

Please answer all remaining questions for this most important innovation only: do not include other innovations in your answers

C.2. To what degree has this most important innovation been implemented?

(Tick **one** box only)

a) Currently being piloted or tested ☐
b) Partially implemented, with continuing improvements underway ☐
c) Completely implemented ☐

C.3. Who are the **users** of your **work unit**'s most important innovation? (*The users of a process innovation are usually government employees that operate the process, such as a new accounting system. The user for a service innovation often consists of individuals, but can include government employees, businesses or community groups*).

(Tick **all** that apply)

a) Government employees (in your own work unit or elsewhere) ☐
b) Individuals (citizens, residents, etc.) ☐
c) Businesses or business associations ☐
d) Community groups or non-profit organizations ☐
e) Other (please describe) ☐

C.4. Was the **original purpose** of this most important innovation to:

(Tick **all** that apply)

a) Meet new legislation or regulations ☐
b) Provide significant cost savings ☐
c) Provide significant quality improvements for the users of a service ☐
d) Improve the user experience of a service ☐
e) Improve the adoption or use of a service by potential users ☐
f) Improve internal efficiencies in the use of staff or other resources ☐
g) Address social challenges ☐
h) Other (please describe) ☐

C.5. In your opinion, does this most important **innovation:**

(Choose one option per row)

	Yes	**No**	**Don't know**
a) Provide an entirely new process	☐	☐	☐
b) Improve existing processes	☐	☐	☐
c) Provide an entirely new service	☐	☐	☐
d) Improve existing services	☐	☐	☐

C.6. What is the expected effect of this most important innovation on the costs of your processes or services?

(Tick **one** box only)

a) Increase costs ☐
b) Have no effect on costs ☐
c) Decrease costs ☐
d) Costs not relevant ☐
e) Don't know ☐

C.7a. Where did the idea for this most important innovation come from?

(Tick **all** that apply)

A) Elected politicians ☐
B) Senior managers in your organization ☐
C) Yourself or colleagues at a similar management level in your organization ☐
D) Staff at job levels below your own ☐
E) Other government organizations (include good practice examples) ☐
F) Individuals (citizens, residents, etc.) ☐
G) Businesses (include consultants) ☐
H) Community groups or non-profit organizations ☐
I) Other (please describe) ☐

C.7b. Which of the above was the most important source of the idea for this innovation?
_____(insert letter from Question C.7 above)

C.8. How important were the following factors in driving the development of this most important innovation?

	Degree of importance (Tick **one** box per row)				
	High	**Medium**	**Low**	**None**	**Don't know**
a) An increase in your work unit's budget	☐	☐	☐	☐	☐
b) A decrease in your work unit's budget	☐	☐	☐	☐	☐
c) Government regulations, policies or priorities	☐	☐	☐	☐	☐
d) A problem or crisis requiring an urgent response	☐	☐	☐	☐	☐
e) Demand from individuals	☐	☐	☐	☐	☐
f) Demand from businesses, community groups or other organizations	☐	☐	☐	☐	☐
f) Other (please describe)	☐	☐	☐	☐	☐

Inputs into this innovation

C.9. Did your work unit receive any extra funding or staff specifically to develop this most important innovation?

(Tick **all** that apply)

a) Extra funding..... ☐

b) Extra staff..... ☐

If yes: How many additional employees worked on this innovation? _____

c) No extra staff or funding received ..... ☐

C.10. Approximately how many person months of **government employees** were required to develop and implement this most important innovation? *Include government employees outside your work unit if relevant.*

A person-month equals one person working full-time for one month. *Count all time spent by government employees on developing this innovation from the initial idea until implementation. Include time spent before the last two years if relevant. Exclude time by external consultants.*

(Tick **one** box only)

a) None ..... ☐

b) Less than 3 person-months ..... ☐

c) 3 person-months to less than 12 person-months ..... ☐

d) 12 person-months to less than 24 person-months..... ☐

e) 24 person-months or more..... ☐

f) Don't know ..... ☐

C.11. Did your work unit obtain assistance, advice, technology or other inputs to the development of this most important innovation from the following sources?

(Tick **one** box per row)

	Yes	**No**	**Don't know**
a) Other work units **within** your organization	☐	☐	☐
b) Other government organizations	☐	☐	☐
c) Universities or public research institutes	☐	☐	☐
d) Businesses including consultants	☐	☐	☐
e) Design firms, innovation labs or living labs	☐	☐	☐
f) Providers of specialized software or ICT equipment	☐	☐	☐

C.12. Were the following methods used to develop your work unit's most important innovation?

(Tick **one** box per row)

	Yes	No	Don't know
a) Assign one individual to take responsibility for this innovation	☐	☐	☐
b) Assign a dedicated team to this innovation	☐	☐	☐
c) Review relevant good practices of other government or business organizations	☐	☐	☐
d) Conduct research to identify the challenges to be addressed by this innovation	☐	☐	☐
e) Conduct research to identify different types of users for this innovation	☐	☐	☐
f) Brainstorming or idea generation to identify solutions	☐	☐	☐
g) Development of a prototype of this innovation	☐	☐	☐
h) Pilot testing of this innovation	☐	☐	☐

Involvement of <u>users</u> in this most important innovation

C.13. Was this most important innovation evaluated after implementation?

(Tick **one** box only)

a) Yes ..... ☐
b) No, and no plans for an evaluation ..... ☐
c) No, but the innovation will be evaluated in the future ..... ☐

(If yes to **C.13.**): Were **user experiences** of this innovation included in the evaluation?

(Tick **one** box only)

a) Yes, and no changes to the innovation required to improve the user experience ..... ☐
b) Yes, and changes to the innovation were required (or planned for in the future) to improve the user experience ..... ☐
b) No evaluation of user experience ..... ☐

C.14. Were the following methods used to obtain input from **users** for the development of this most important innovation?

(Tick **one** box per row)

	Yes	No	Don't know
a) Analysis of data on the experiences of users with previous or similar services or processes	☐	☐	☐
b) One-to-one in-depth conversations with users to identify challenges or unmet needs	☐	☐	☐
c) Focus groups with users to identify challenges or unmet needs	☐	☐	☐
d) Inclusion of users in brainstorming or idea generation workshops	☐	☐	☐
e) Real-time studies of how users experience or use a prototype of this innovation	☐	☐	☐

<if no or don't know to all options in C.14 go to C.16, otherwise go to C.15>

Effects of involving users on outcomes

C.15. How important was the **contribution of users** to the development of your most important innovation for the following outcomes?

	Level of benefit from user involvement (Tick **one** box per row)				
	High	**Medium**	**Low**	**None**	**Don't know**
a) Reduced development costs	☐	☐	☐	☐	☐
b) Reduced development time	☐	☐	☐	☐	☐
c) Reduced need to revise the innovation after implementation	☐	☐	☐	☐	☐
d) Improved fit with user needs (uptake, understanding, acceptance, etc.)	☐	☐	☐	☐	☐
e) Improved quality	☐	☐	☐	☐	☐
e) Reduced risk of innovation failure	☐	☐	☐	☐	☐

Outcomes of the most important innovation

C.16. What effects did this most important innovation have on the following outcomes? (*Service outcomes may not be relevant for process innovations*)

	(Tick **one** box per row)				
	Positive effect	**Neutral effect**	**Negative effect**	**Too early to estimate**	**Not relevant**
a) Simpler procedures	☐	☐	☐	☐	☐
b) Time to deliver a service	☐	☐	☐	☐	☐
c) Ability to target a service to those who need it	☐	☐	☐	☐	☐
d) User experience of a service	☐	☐	☐	☐	☐
e) User access to information	☐	☐	☐	☐	☐
f) Employee satisfaction	☐	☐	☐	☐	☐
g) Safety of employees or individuals (citizens, residents, etc.)	☐	☐	☐	☐	☐
h) Reducing costs	☐	☐	☐	☐	☐
i) Service quality	☐	☐	☐	☐	☐
j) Other	☐	☐	☐	☐	☐

Obstacles to developing or implementing this most important innovation

C.17. How important were the following factors in hindering the development of this most important innovation?

	Degree of importance (Tick **one** box per row)				
	High	**Medium**	**Low**	**None**	**Not relevant**
a) Political or senior management pressure for rapid development and implementation	☐	☐	☐	☐	☐
b) Lack of a supportive culture for innovation in your organization	☐	☐	☐	☐	☐
c) Lack of support by senior management	☐	☐	☐	☐	☐
d) Lack of support by politicians	☐	☐	☐	☐	☐
e) Senior management concerns over risk (failure, poor publicity, technical difficulty, etc.)	☐	☐	☐	☐	☐
f) Lack of knowledge on how to innovate within your organization	☐	☐	☐	☐	☐
g) Difficulties in finding potential users to participate in developing this innovation	☐	☐	☐	☐	☐
h) Management resistance to including **user input** in the development of this innovation	☐	☐	☐	☐	☐
i) Legal or regulatory obstacles to including **user input** in the development of this innovation	☐	☐	☐	☐	☐
j) Other legal requirements or regulations	☐	☐	☐	☐	☐
k) Insufficient financial resources or staff	☐	☐	☐	☐	☐
l) Insufficient demand from users	☐	☐	☐	☐	☐