RISIS

RESEARCH INFRASTRUCTURE FOR SCIENCE AND INNOVATION POLICY STUDIES

DOCUMENTATION OF RISIS DATASETS
SIPER

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28.06.2019

Outline

1 Basic Characteristics

The Science and Innovation Policy Evaluation Repository (SIPER) is a rich and unique database and knowledge source of science and innovation policy evaluations forming part of a larger scale effort involving the improvement, update and extension of the databases developed during the first round of RISIS (Research Infrastructure for Science and Innovation Policy Studies). Its main objective is to identify, collect and characterise evaluation reports and present them to wider stakeholders, and to conduct academic research by analysing these evaluations.

The database consists of two main components:

1. an on-line repository of evaluation reports (in pdf format) relating to innovation and science policy instruments; and

2. a structured searchable database of information relating to the characterisation of reports and their related content.

The aim of the database is twofold:

1. to provide on-line access to a unique collection of policy evaluation reports, located at a single location; and

2. to provide an informed analysis of the database contents in a way that is both searchable for policy makers and other stakeholders and provides the basis for additional academic analysis.

The holding authority is the Fraunhofer Institute for Systems and Innovation Research ISI.

The database is located on Fraunhofer ISI servers and will be available on-line from autumn 2019 onwards; until then the public version of the database is accessible via http://www.si-per.eu/. The publicly accessible and searchable version of SIPER contains the evaluation reports themselves and basic information on these, including the information used for characterising the reports subdivided in four broad categories:

1. Basic information: report title (original language and English), unique identifier code, author, year of publication, the report's country / organisation of origin and a list of available documents for each report.

2. Policy measure information: measure's title and the country/countries the measure belongs to.

3. Policy measure detail: information on e.g. targets and modalities of the support or on policy objectives

4. Information gathered during the process of factual characterisation (FC)

The access to additional data might be granted via the RISIS access request, on site at Fraunhofer ISI or, occasionally on distance upon request.

The database interface is subdivided as follows:

1. SIPER Admin: a password controlled access site used by core SIPER team members ('super-users') for the overall administration and management of SIPER. Other members of the SIPER

team and external data coders have limited access to certain functions for the upload of documents and data characterisation (FC) input.

2. SIPER Public site: This site offers access to the repository of evaluation reports and provides a searchable interface based on the database of evaluation characterisations. Any evaluation reports located through the search process are downloadable in pdf format.

Via RISIS, SIPER offers access to specific data not readily accessible in the public version. Furthermore, the database will be inter-linked with the other RISIS datasets using the RCF. This process will be guided by the RISIS triplet topics, actors and spaces.

2 Database Content

2.1 Definition and description of observations

The principle unit of analysis of SIPER are evaluation reports relating to publicly funded science and innovation support programmes / measures.
Each evaluation report is subject to a characterisation process, which results in the production of a number of variables each with one, or more associated values.
Observations relate mainly to English-language evaluations but are supplemented by those in e.g. French, Spanish, Portuguese and German where relevant.

Currently the database contains 539 publicly searchable entries mainly covering the years 2000-2017 with a clear focus on the UK (n = 164; 30.43 %) and the European Union (n = 92; 17.07 %). In total the database includes reports commissioned by 30 individual states (n = 440; 81.63%), seven reports originating from bilateral / international cooperation (1.30 %) and 92 EU-commissioned reports (17.07 %). These reports are allocated to 10 target groups, the most frequent of which are higher education institutions (19.85%), research organisations (16.54%) and individuals (16.17%). Within this process, a single evaluation report can be assigned to multiple categories.

Throughout RISIS 2, the SIPER team will update the database with evaluation reports published since 2017 while enlarging the geographical outreach beyond the current scope.

2.2 Data acquisition and processing (e.g. data cleaning)

So far, evaluation reports relating to publicly funded science and innovation support schemes have been located mainly from publicly accessible websites, generally those relating to ministries, government agencies, national and supra-national organisations, as well as leading evaluation practitioners, mainly covering the period 2000-2017. Earlier "seminal" evaluations might be included on a selective basis. Sine SIPER is a "live" database, data retrieval is an ongoing process, which will be continued during RISIS 2 following the same approach.
Additional reports are located through a range of targeted on-line search procedures, supplemented by previously identified reports available to the project team and from personal contacts.

Additional data (evaluation reports) have been and will be provided through negotiated access to:

1. OECD evaluation reports

2. DG RTD and DG REGIO evaluation reports

3. Over 145 Austrian evaluation reports

4. A research group led by Prof. Sergio Salles-Filho and Dr. Adriana Bin from UNICAMP (Sro Paulo, Brazil) are active members of the SIPER core team since May 2016. Meanwhile, they have attached more than 130 datasets from six Latin American countries (Brazil, Argentina, Uruguay, Mexico, Chile and Colombia) to the SIPER database.

No data cleaning of these reports is required (other than the conversion of documents in Word format to pdf).

Data processing consists of a process of in-house analysis and the characterisation of evaluation report contents:

1. Each evaluation retrieved and stored in the repository is read by a member of the internal SIPER team.

2. It is then characterised (coded) according to a data entry template housed on the SIPER admin site.

3. The coding is entered directly via the SIPER admin site into the SIPER database.

All SIPER team members are experienced evaluators and have familiarity with the range of evaluation concepts and terminology; thus, where external assistance is used for data coding (e.g., in case of non-English language evaluation reports), an extensive training process is employed to ensure consistency and common understanding. A member of the SIPER core team regularly conducts random checks on coded data.

Despite the shared experience of the SIPER team, a quality control process was introduced in order to ensure that there is minimal variation in the data characterisation process and to enhance mutual understanding. This process involves the parallel coding of a number of evaluation reports by various team members, comparison of the outputs, follow-up discussion of any coding discrepancies and agreement on future coding protocols.

The above process is applied to any coders providing external assistance.

To assist in the process of coding, a detailed Guidance Manual has been developed during RISIS 1, which will be applied during the updating process in RISIS 2.

An initial assessment of judgemental characteristics is made in-house. Policy makers having a direct connection with the programme that forms subject of the evaluation report are then invited to provide external validation of the information and to provide additional information on the use and uptake of the report.

2.3 Information on all variables/indicators

The data observations / characterisations fall into a number of variable types and subtypes, namely:

1. General report information

2. Respondent information

3. About the policy measure being evaluated; Information on the corresponding policy measure: a novel typology of policy measures has been developed building upon previous typologies, which cover innovation-support measures, and extending to the area of science programmes. The categorisation is multi-dimensional (i.e. reflects modality, target, policy issue, and other pertinent variables)

4. Information on the evaluation

5. Topics covered: Aspects of the programme covered by the evaluation

6. Evaluation design: design approaches employed for the evaluation

7. Data collection methods: Methodologies employed to collect the basic evaluation evidence / information.

8. Data analysis methods: Methodologies employed to analyse the data collected.

9. Dissemination: Judgemental characterisation information input by SIPER team and validated by relevant policy makers

10. Quality issues: Judgemental characterisation information input by SIPER team and validated by relevant policy makers

11. Comments

These are more fully elaborated below to indicate the nature of the variables and indicators:

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FC data characterisation

- o **Respondent information:** *Full name (free text)*
- o **About the** <u>policy measure</u> **being evaluated:**
  - o *Title in English   free text*
  - o *Title in native language   free text*
  - o *Country policy measure belongs to   drop down selection*
    - ▪ *Options for multiple countries   free text*
    - ▪ *Options for Supranational Bodies   free text*
  - o *Target (beneficiary) of support (10 options; non-exclusive)*
  - o *Modality (how support is provided) (7 options; non-exclusive)*
  - o *Explicit policy objectives (why support is provided)   15 options; non-exclusive)*
- o **Information on the evaluation**
  - o *Title in English   free text*
  - o *Title in native language   free text*
  - o *Country evaluation belongs to   drop down selection*
    - ▪ *Options for multiple countries   free text*
    - ▪ *Options for Supranational Bodies   free text*
  - o *Year of first publication   drop down selection*
  - o *Evaluation code   unique identifier allocated by administrator*
- o **Basic characteristics of the evaluation**
  - o *Who conducted the evaluation? (4 options; non-exclusive)*
  - o *Timing of the evaluation (4 options; non-exclusive)*
  - o *Purpose of evaluation (3 options; non-exclusive)*
  - o *Does evaluation refer to programme logic/intervention rationale? (3 options; exclusive)*
- o **Topics covered:**
  - o *Aspects of the programme examined by the evaluation (19 options; non-exclusive)*
    - ▪ *Option for Quality of outputs; (binary)*
    - ▪ *Option for geographical scope of outcomes/impacts (binary)*
      - • *Options for geographical level (3 options; non-exclusive)*
    - ▪ *Options for type of impact/effects (6 options; non-exclusive)*
    - ▪ *Options for unintended effects (binary)*
    - ▪ *Options for additionality (3 options; non-exclusive)*
    - ▪ *Options for sectoral nature of collaboration (4 options; non-exclusive)*
    - ▪ *Options for geographical scope of collaboration (4 options; non-exclusive)*
    - ▪ *Options for form of collaboration (3 options; non-exclusive)*
    - ▪ *Options for type of mobility (3 options; non-exclusive)*
- o **Evaluation design:**
  - o *Type of design approaches employed for the evaluation (3 options; non-exclusive)*
    - ▪ *Options for type of quasi-experimental design (3 options; non-exclusive)*
  - o *Did evaluation involve comparison between evaluated measure and similar measures? (binary)*
  - o *Did evaluation include benchmarking against outcomes of previous phases/evaluations of the measure? (binary)*
- o **Data Collection Methods:**
  - o *Which data collection methods were employed? (12 options; binary selection)*
    - ▪ *Options for type of existing databases/monitoring data (3 options; non-exclusive)*
    - ▪ *Options for types of survey used (7 options; non-exclusive)*

Options for type of interviews used (7 options; non-exclusive)

2.4   Sectorial, temporal and geographical coverage

Information on the sectorial classifications used:

1.   A classification scheme for science and innovation policy measures has been developed (see Appendix 6)

2.   Minimal sectorial data is collected; none are based on or use standard classification systems such as SIC coding.

Information on the temporal coverage used: SIPER Public Site currently covers evaluation reports having been published in the period 2000-2017. Updating the database is an integral part of RISIS2.

Information on the geographical coverage and classifications used: A complete set of world countries utilised as drop-down options. These cover EU-member states and non-EU countries. No regional data classification is utilised.

2.5 Quality and accuracy of data

Information on the number of missing values: At this stage, the database has not yet gone live on Fraunhofer ISI servers and will be updated soon. Thus, this estimate is for now not quantifiable. We anticipate that the FC data will not include any missing values since it is coded and input in-house.

Estimation of data quality issues with respect to data acquisition, reliability of retrieving system: With in-house produced and quality controlled data, this issue is not relevant.

3 Technical Specifications

3.1 Information on the data base system

At UNIMAN, the application's databases are hosted on the server QLDef.dbs.ds.man.ac.uk 6503 (SQL Server 2012). After completing the transfer of the SIPER database, Fraunhofer ISI plans to use an SQL server as well.

3.2 Technical variable definition

As the approach developed and codified in RISIS 1 will be applied for SIPER, the technical variable definition is applicable during RISIS 2:

- Labelling of all variables: finalised
- Data type of all variables: varied, details as follows:
    - Integer: e.g. DataStageId or PrecedingDataStageCode
    - Nvarchar: e.g. QuestionText and PLTitle
- Current usage and definition of unique identifiers: Unique identifiers are automatically generated through the admin site as researchers upload evaluations onto the system.

3.3 Description of the Entity Relationship Model (if applicable)

There are two main tables: evaluations and policy measures. Evaluation include a number of evaluation characteristics; policy measures include a number of policy measure characteristics. These two tables will be linked in a many-to-many relationship (as there are evaluations covering multiple policy measures and there are policy measures that have been evaluated multiple times). The overall data schema for SIPER is provided below:

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P00418 b/c/d
SiperPortalAdmin/PM/Public
Appendix 4
Data Schema v5.0
08/01/2016

Colour code:

- Basic evaluation data
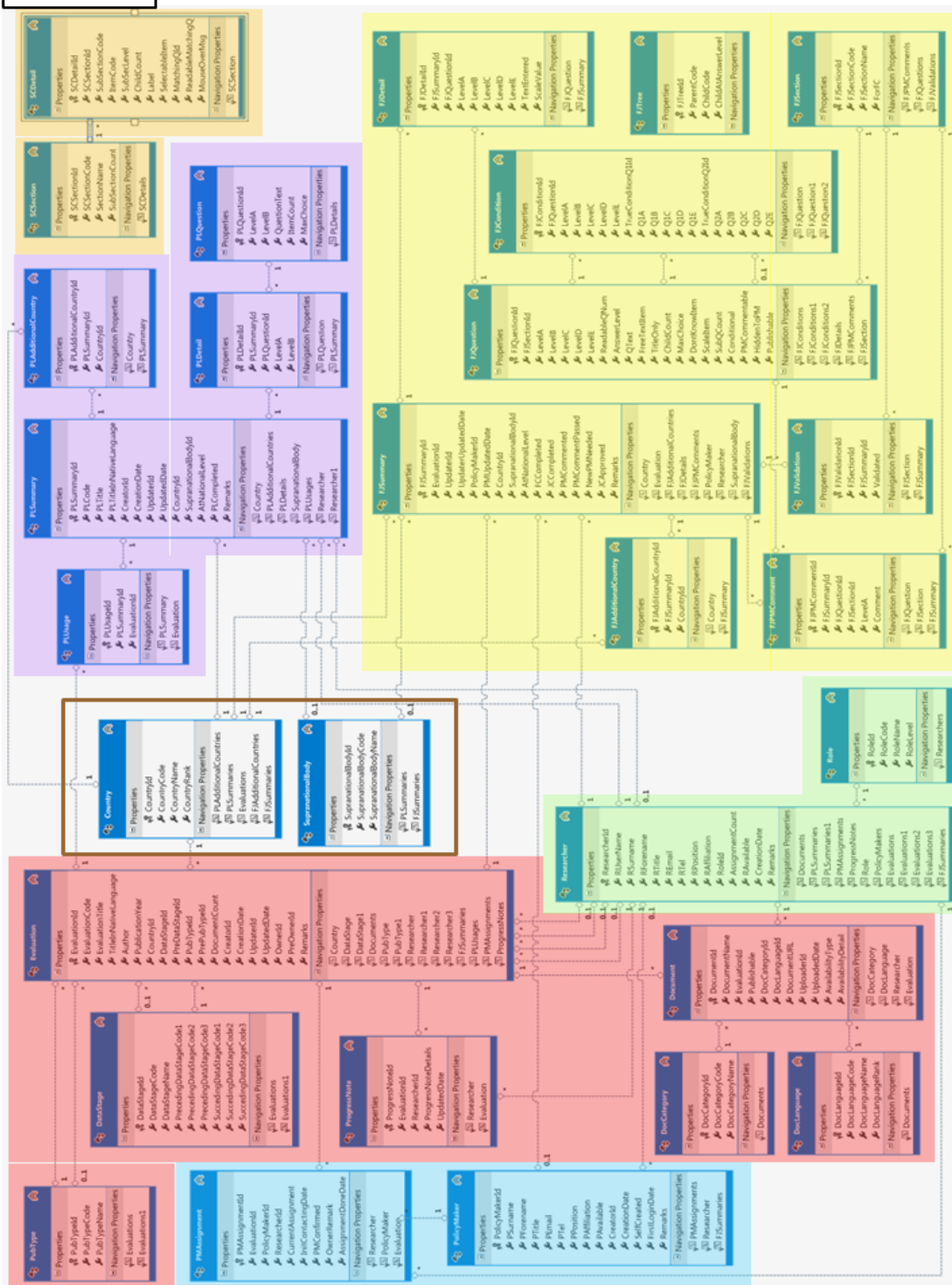- FC/JC data
- Policy measure data
- Policy maker data
- Researcher data
- Search condition data
- PM authentication data
- Overlapping data

Note on ambiguous relationship name:

[Evaluation] DataStage / [DataStage] Evaluation: (Current) DataStage
[Evaluation] DataStage1 / [DataStage] Evaluation1:   PreDataStage
[Evaluation] PubType / [PubType] Evaluation: (Current) PubType
[Evaluation] PubType1 / [PubType1] Evaluation1:   PrePubType

Creator
Owner
PreOwner
Updater

[Evaluation] Researcher / [Researcher] Evaluation:
[Evaluation] Researcher1 / [Researcher] Evaluation1:
[Evaluation] Researcher2 / [Researcher] Evaluation2:
[Evaluation] Researcher3 / [Researcher] Evaluation3:

[PLSummary] Researcher / [Researcher] PLSummary:
[PLSummary] Researcher1 / [Researcher] PLSummary1:
[FJSummary] Researcher / [Researcher] FJSummary:
[FJQuestion] FJCondition / [FJCondition] FJQuestion:
[FJQuestion] FJCondition1 / [FJCondition] FJQuestion1:
[FJQuestion] FJCondition2 / [FJCondition] FJQuestion2:

Creator
Updater
Updater
FJQuestion:
TrueCondition1
TrueCondition2

3.4 Interfaces for access and to other infrastructures (if applicable)

Since SIPER already has a running API and a respective database system behind, it will be possible to integrate, at least the public part in the RISIS Core Facility (RCF). In this sense, it will be possible to enter SIPER directly via the RISIS interface. Technical details on the implementation depend on RCF development and will be tackled in 2020.

4 Scientific use cases and main references

Across the world, numerous avenues of support for science and innovation exist. These are provided by governments, ministries, agencies, together with international and supranational organisations and these actors continuously seek to evaluate the effects of their policy interventions:

How well are they being managed?

What results have been achieved?

How effective or efficient is their implementation?

What impact have they had?

A vast number of evaluations have been done to assess the effects of an enormous range of policy instruments and together these provide an incredibly valuable resource for policy learning and academic research. However, in the past very few of these reports have been systematically organised according to their major features. Thus, the SIPER database provides a unique collection and characterisation of evaluation reports from a great variety of nations at a single location providing new opportunities for policy makers and scientists alike.

Some references to publications using the dataset:

Borrós, S. & Laatsit, M. (2019): Towards system oriented innovation policy evaluation? Evidence from EU28 member states, Research Policy 48, pp. 312-321.

Cunningham, P.N.; Edler, J.; Flanagan, K. & Larйdo, P. (2016): The innovation policy mix; in: Edler, J.; Cunningham, P.; Gцk, A. & Shapira, P. (Eds.): Handbook of Innovation Policy Impact, Edward Elgar.

Cunningham, P.N. & Gцk, A. (2015): The Impact of Innovation Policy Schemes for Collaboration, in: Handbook of Innovation Policy Impact, Edward Elgar Publishing Limited.

Cunningham, P.N., Gцk, A. & Larйdo, P. (2015): The impact of direct support to R&D and innovation in firms, in: Edler, J.; Cunningham, P.; Gцk, A. & Shapira, P. (Eds.): Handbook of Innovation Policy Impact, Edward Elgar Publishing Limited.

Cunningham, P.N. & Ramlogan, R. (2015): Innovation Networks, in: Edler, J.; Cunningham, P.; Gцk, A. & Shapira, P. (Eds.): Handbook of Innovation Policy Impact, Edward Elgar Publishing Limited.

Edler, J. (2016): The impact of policy measures to stimulate private demand for innovation, in: Edler, J.; Cunningham, P.; Gцk, A., Shapira, P. (Eds): Handbook of Innovation Policy Impact, Edward Elgar.

Edler, J.; Cunningham, P.; Gцk, A. & Shapira, P. (2016): Handbook of Innovation Policy Impact, Edward Elgar.

Edler, J.; Gцk, A.; Cunningham, P. Shapira, P. (2016a): Introduction: Making sense of innovation policy, in Edler, J. Cunningham, P.; Gцk, A., Shapira, P. (Eds): Handbook of Innovation Policy Impact, Edward Elgar.

Edler, J., Gцk, A., Cunningham, P. & Shapira, P. (2016b): Conclusions: Evidence on the effectiveness of innovation policy intervention, in: Edler, J.; Cunningham, P.; Gцk, A. & Shapira, P. (Eds.): Handbook of Innovation Policy Impact, Edward Elgar.

Edler, J., Berger, M., Dinges, M. and Gцk, A. (2012): The Practice of Evaluation in Innovation Policy in Europe, Research Evaluation. escholar ID 176301.

Edler, J.; Amanatidou, E.; Berger, M.; Bьhrer, S.; Cunningham, P.; Daimer, S.; Dinges, M.; Garefi, I.; Gцk, A. & Schmidmyer, J. (2010): INNO-Appraisal Understanding Evaluation of Innovation Policy in Europe. Brussels / Manchester.

Gцk, A.; Li, Y.; Cunningham, P.; Edler, J. & Laredo, P. (2016): Towards a Taxonomy of Science and Innovation Policy Instruments. Paper presented at 2016 Annual Conference of the Eu-SPRI Forum, Lund, Sweden.

Hristov, H.; Slavcheva, M.; Jonkers, K. & Szkuta, K. (2016): Intersectoral Mobility and Knowledge Transfer Preliminary evidence of the impact of intersectoral mobility policy instruments, JRC Science for Policy Report.

Kubera, Paulina (2017): Conceptual framework for evaluations of economic impacts of RDI instruments, research paper, Journal Association 1901 SEPIKE, pp. 90-96.

Miles, I. & Cunningham, P.N. (2006): Smart innovation A practical guide to evaluating innovation programmes, Commission of the European Communities.

Reid, A.; Cunningham, P.; Edler, J.; Kamburow, T. & Simmonds, P. (2012): Evaluation of Innovation Activities Methods and Practice, study funded by the European Commission, Directorate for Regional Policy. Brussels: EU Commission.

ANNEX 1 Evaluation Reports in SIPER (2000-2017)

Figure 1: Evaluation reports in SIPER 2000-2017; n = 535
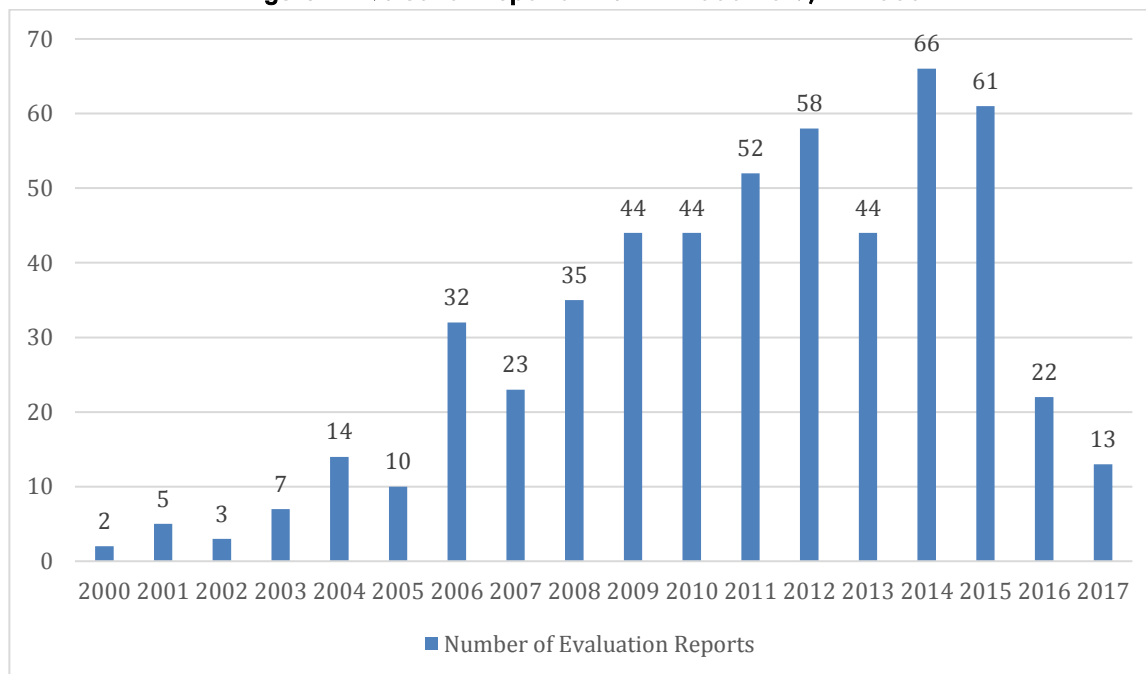
Note: as of 17.06.2019

ANNEX 2: Evaluation Reports in SIPER per country

Table 1: Single country evaluation reports in SIPER 2000-2017; n = 440

Country	n	Percent	Country	n	Percent
Argentina	4	0.74	Ireland	3	0.56
Australia	10	1.86	Latvia	2	0.37
Austria	27	5.01	Lithuania	2	0.37
Belgium	3	0.56	Mexico	4	0.74
Brazil	4	0.74	Netherlands	3	0.56
Canada	62	11.50	New Zealand	1	0.19
Colombia	4	0.74	Norway	9	1.67
Czech Republic	2	0.37	Poland	1	0.19
Denmark	16	2.97	South Africa	10	1.86
Estonia	4	0.74	Spain	3	0.56
Finland	7	1.30	Sweden	6	1.11
France	44	8.16	Switzerland	2	0.37
Germany	14	2.60	United Kingdom	164	30.43
Hungary	1	0.19	Uruguay	2	0.37
India	1	0.19	USA	25	4.64

Note: as of 17.06.2019

ANNEX 3: Policy Measure Target Groups

Figure 2: Share of each Target Group, n = 1602

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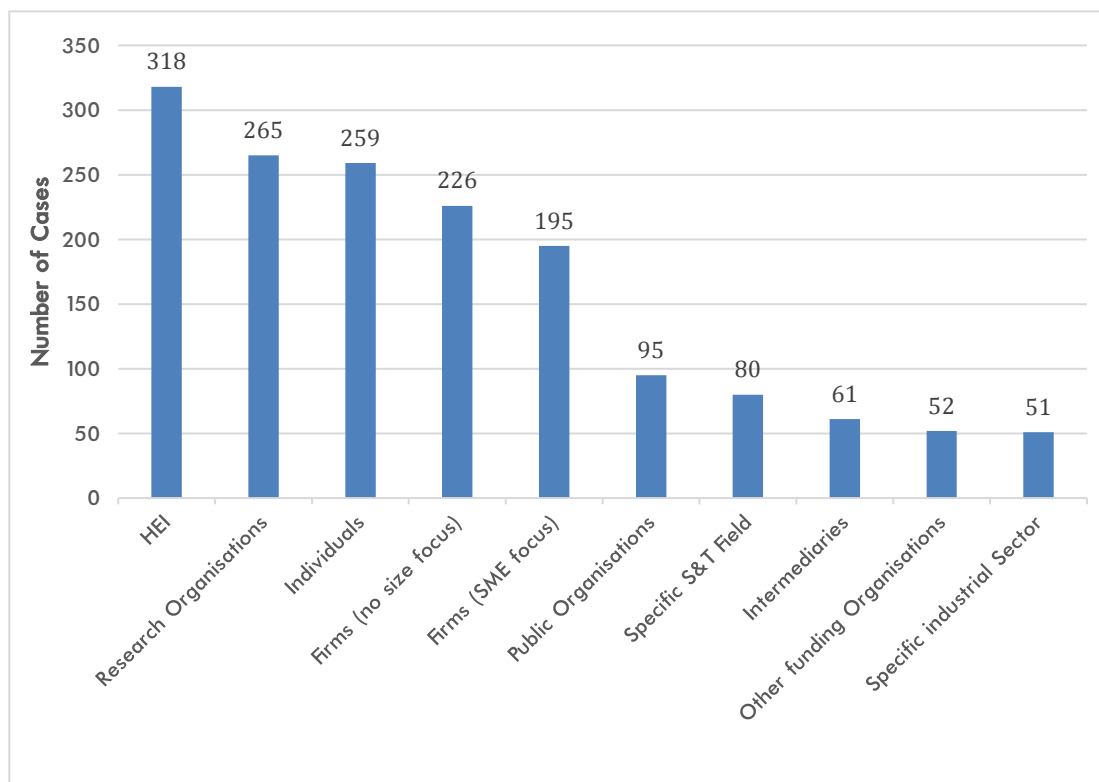
ANNEX 4: Data Coding Procedure Flowchart

Figure 3: Step 3 - searching evaluations for SIPER through individual country agencies
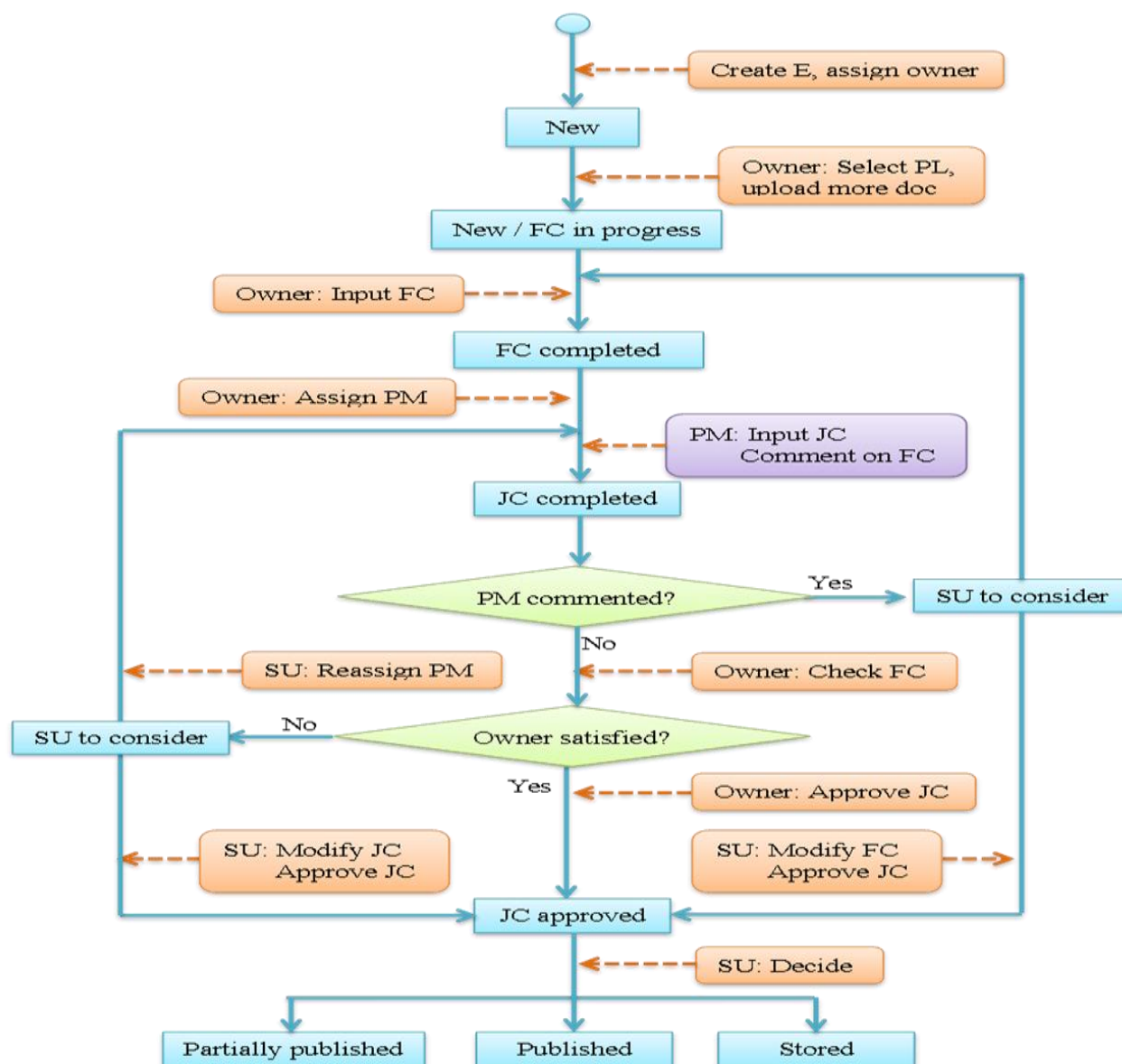
ANNEX 5: SIPER Coder Manual

Version 1.0

1. Purpose of this Manual

This Manual is intended to provide guidance and assistance to persons involved in carrying out the coding tasks associated with the SIPER database (Project Associates, PAs). These coding tasks relate to the characterisation of reports that present the results of evaluations of publicly funded policy measures, instruments and programmes intended to support research, technological development and innovation (RDTI) activities targeted either at the public or private sectors.

It begins with a short description of the SIPER project. This is followed by a more detailed explanation of the processes used to collect relevant evaluation reports and to extract the relevant data from these reports. It the presents a detailed explanation and definition of the core concepts and terminology employed in the data characterisation template. Finally, a glossary of keywords and terms is provided.

2. SIPER: brief explanation

The SIPER database is composed of different types of data:

1. Policy measure characterisation (PL): a basic three layer classification of the related policy measures (according to the typology above). This will be filled in by project associates (PAs).

2. Basic information: evaluation title, author, language, country, related files etc.

3. Factual Characterisation (FC): characteristics that can be inferred from evaluation reports themselves (methods, timing, topics, etc.). This will be filled in by PAs. These characteristics will be fully open to public (i.e. files will be searchable against most of them and they will be displayed on the web, possible link to OECDs Innovation Policy Platform (IPP - https://www.innovationpolicyplatform.org/).

This data structure is reflected in our database as follows:

- Part A, SiperPortalBasic This is the tool for inputting "basic information" on evaluations and storing related files.

- Part B, SiperPortalAdmin The full version of the SIPERPortal admin tool, an authenticated site for members of the SIPERproject team. This tool will also enable us to input policy measure characterisations and factual characterisations (see above). There will also be a workflow management system (assign tasks to different users, contacting policy-makers and inviting them to fill in the JC).

- Part C: A public site with searching facilities for public users to search the project data.

- Part D: An authenticated sub-site SiperPortalPM with the access restricted to the external stakeholders (PMs). This is the interface to which PMs input judgemental characterisations.

3. Evaluation Collection Process

The project aims (in the long term) to include all evaluations of science and innovation policy programmes conducted after 2000 from around the world. The medium term objective is to reach a target figure of around 2,000 documents. These will include evaluations in major languages.
To achieve this, we use a three-step search strategy to identify those evaluations to be included in SIPER.

Figure 1: A three-step approach to searching evaluations for SIPER

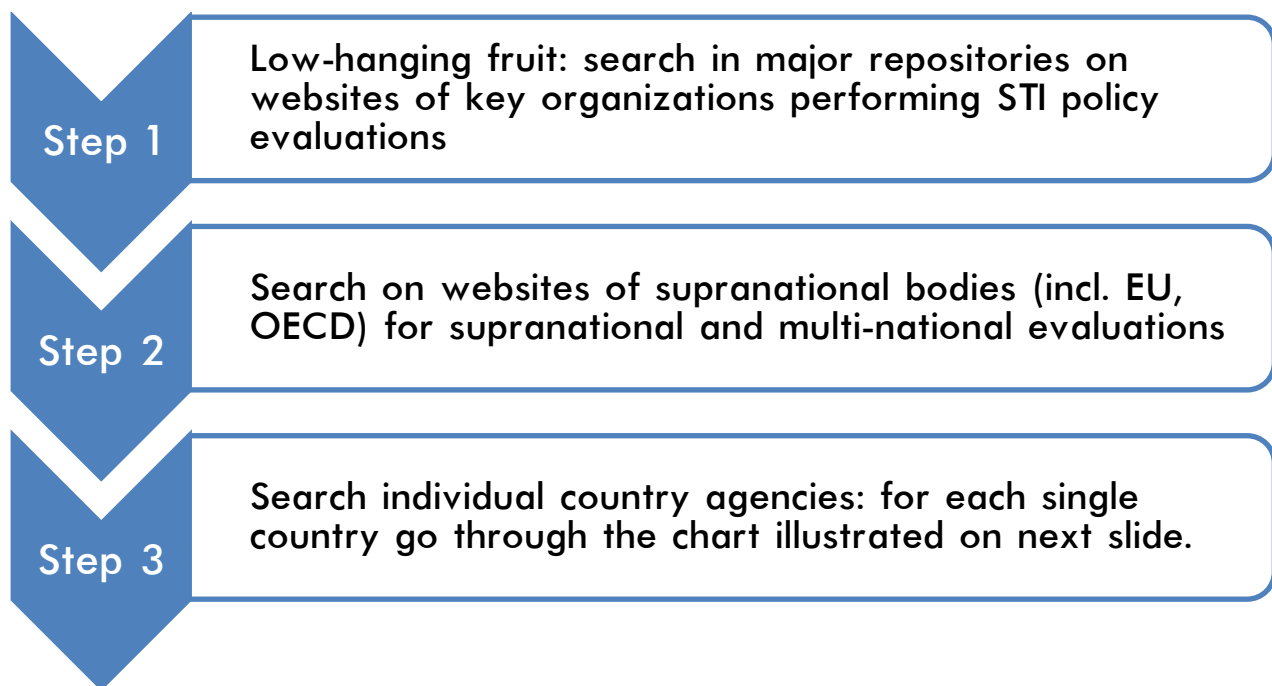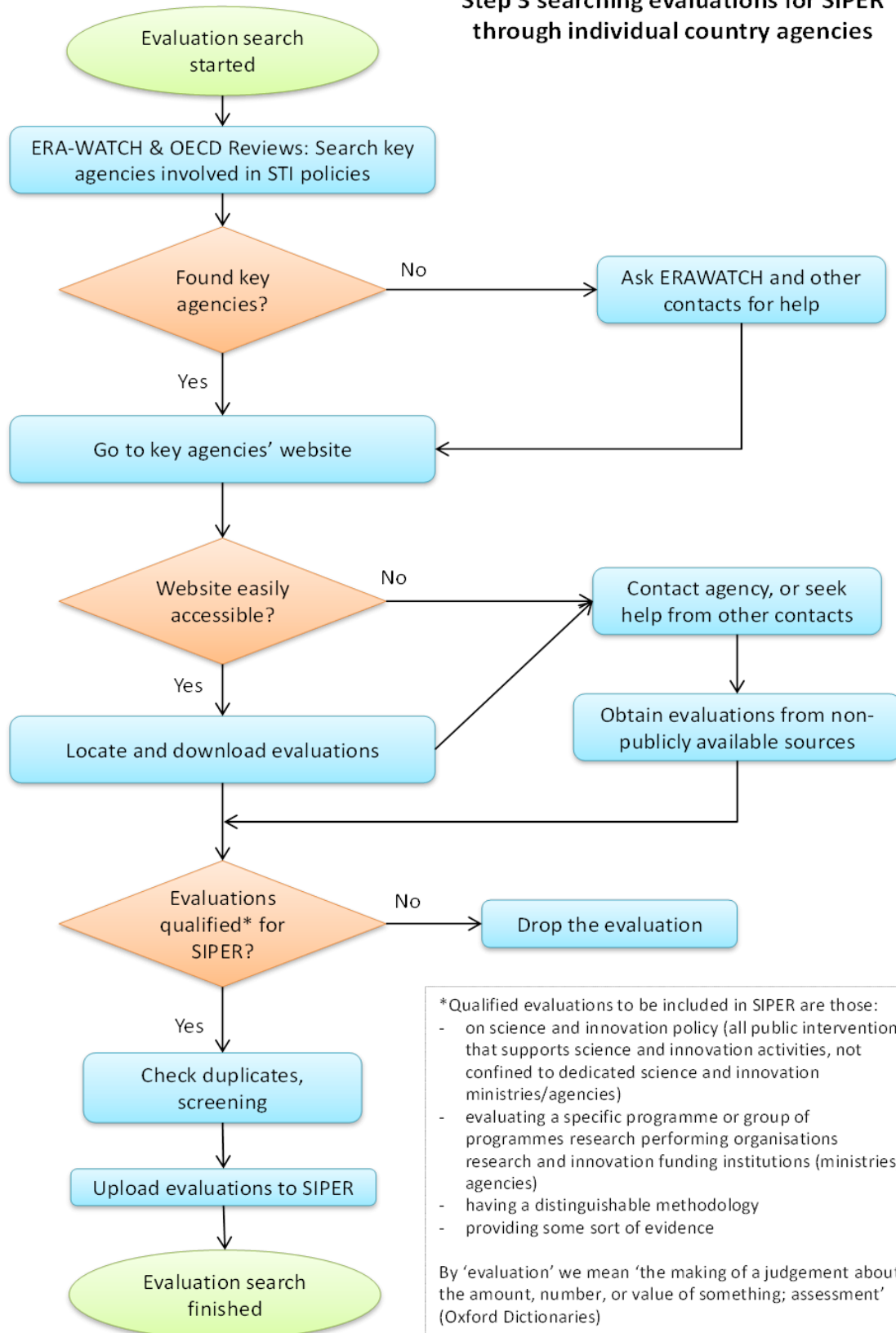| Step 1	Low-hanging fruit: search in major repositories on websites of key organizations performing STI policy evaluations
Step 2	Search on websites of supranational bodies (incl. EU, OECD) for supranational and multi-national evaluations
Step 3	Search individual country agencies: for each single country go through the chart illustrated on next slide.

Figure 2 on the next page displays in more detail the third step of this search process.

Step 3 searching evaluations for SIPER through individual country agencies

Evaluation search started

ERA-WATCH & OECD Reviews: Search key agencies involved in STI policies

Found key agencies? — **No** → Ask ERAWATCH and other contacts for help

Yes → Go to key agencies' website

Website easily accessible? — **No** → Contact agency, or seek help from other contacts → Obtain evaluations from non-publicly available sources

Yes → Locate and download evaluations

Evaluations qualified* for SIPER? — **No** → Drop the evaluation

Yes → Check duplicates, screening

Upload evaluations to SIPER

Evaluation search finished

*Qualified evaluations to be included in SIPER are those:
- on science and innovation policy (all public intervention that supports science and innovation activities, not confined to dedicated science and innovation ministries/agencies)
- evaluating a specific programme or group of programmes research performing organisations research and innovation funding institutions (ministries, agencies)
- having a distinguishable methodology
- providing some sort of evidence

By 'evaluation' we mean 'the making of a judgement about the amount, number, or value of something; assessment' (Oxford Dictionaries)

10

4. Data Collection Process

Once an evaluation report has been collected, the next step is to "characterise" the factual information it contains (i.e. relating to timing of the evaluation, topics covered, methods used, recommendations reported, etc.). Information is also captured regarding the related policy measure to which the evaluation refers (target group, modality, objectives, country, etc.). Both types of information are obtained through completion of an on-line characterisation template. The aim is to construct a database of these variables that will be searchable by external users. This factual information is augmented by a further "judgemental" characterisation. This is elicited from policy makers (programme managers, etc.) who are connected to or familiar with the evaluation and / or the relevant policy / programme. Again, an on-line characterisation template is used to collect data which concerns aspects of the evaluation quality, use and dissemination, etc. This latter judgemental information is collected on a confidential basis and is used solely for the purpose of academic research.

The next section is organised along the lines of characterisation templates and provides detailed explanations of the core concepts and terminology used along with guidelines for the completion of the characterisation templates.

5. Definition of core concepts: Guidance on completing the template

This section is organised along the lines of the data characterisation template and follows the structure of the online input process,

It aims to provide a comprehensive, yet brief, set of definitions and explanations, accompanied by examples as required.

Part 1: About the Policy Measure being evaluated

This section seeks information on some basic characteristics of the measure or programme that is being evaluated in the report under consideration. Please note that all information is entered on the template and must be derived from the evaluation report itself please do not make assumptions about any aspects of the programme that are not directly reported by the report authors, even if you are aware of such additional information. With the possible exception of the first question (the name of the policy measure / programme in English), we are interested solely in the content of the evaluation report itself.

In the following list of questions, a preceding "*" indicates that the question is conditional, i.e. it will only appear in the on-line template if a certain answer has been given in a preceding question.

PL0.1 What is the title in English of the policy measure being evaluated?
For those evaluation reports that use languages other than English, please give the name of the policy
measure / programme that is being evaluated in English. Note that this question refers to the name of the programme or measure being evaluated, NOT the title of the evaluation report itself.

PL0.2 What is the title in the native language of the policy measure being evaluated? If the native language is English, please put in the English title again.
For those evaluation reports that use languages other than English, please give the name of the policy measure / programme that is being evaluated in its original language. As above, please note that this question refers to the name of the programme or measure being evaluated, NOT the title of the evaluation report itself.

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PL0.3 Please select which country the policy measure belongs to (if it belongs to more than one country, please select "Multiple Countries" at the bottom of the list; if it belongs to a supranational body such as the European Commission, please select "Supranational Bodies" at the bottom of the list).

This question refers to the country in which the policy measure or programme is managed and administrated   i.e. the country in which the "owner(s)" of the measure is / are located. For example, a cross border programme may be operated by a single agency located in one country or by several agencies in coordination.

PL0.3.1 Your answer to question PL0.3 is "Multiple Countries". Which countries does the policy measure belong to? Please specify below, using a semicolon to separate different countries. For example, if the policy measure belongs to Finland and Sweden, please put in "Finland; Sweden". Please refer to the instructions for Question PL0.3 above. Do not enter the countries in which the measure / programme is implemented unless these correspond to the location of the managing agencies.

PL0.3.2 Your answer to question PL0.3 is "Supranational Bodies". Which supranational PL1body / bodies does this policy measure belong to? Please specify below, using a semicolon to separate different supranational bodies. For example, if the policy measure belongs to OECD and EU, please input "OECD; EU".
Please refer to the instructions for Question PL0.3 above, It is unlikely that a policy measure / programme will belong to more than one supranational body although this may be the case for some programmes such as those operated jointly by the World Bank and UN agencies, for example.

PL1 Targets (beneficiaries of the support) (Please tick all options that apply)
Here we refer to the primary beneficiary of the monetary or non-monetary supports, rather than broader beneficiaries who benefit indirectly from the measure. The "target" also reflects the goal of the policy for example, mobility programmes will target individuals although the funding (or other support) will probably be allocated to and administered by a university department. As another example, a research grant or a scholarship can be applied for by an individual researcher but the money is administered (received and accounted for) by the host institution. In addition, such an award is intended to benefit the individual as a component of the wider institution in these cases both "Individual" and "Universities" can be ticked. Similarly, whilst individual managers may apply for grants, tax relief, etc., this action is generally on behalf of the firm they work for rather than for themselves as individuals.
The available options are (multiple answers are allowed):

1.1   *Individuals* (researcher, student, manager, entrepreneur, investor, etc.): These are the targets of the policy support.

1.2   *Universities* (including sub-departments and component institutions)

1.3   *Research organisations* (including the full spectrum form public (Public Research Organisations) to private (Research and Technology Organisations)

1.4   *Public organisations* (governmental or quasi-governmental agencies, policy-making organisations not directly involved in R&D): These could include bodies whose activities

include the allocation of funding for RDTI activities but which do not perform such activities themselves.

1.5 *Intermediaries* (such as science parks, business incubators, technology parks, knowledge brokers TTOs, etc.)

1.6 *Firms* (SME focused): This includes measures that specifically, but not necessarily exclusively, target SMEs.

1.7 *Firms* (no size-specific focus): This includes measures that do not make any distinction between the size of firms that they are intended to support.

1.8 *Other funding organisations* (NGOs, NPI, Not-for-Profit, Charities)

1.9 *Specific industrial sector targeted*: Some measures / programmes often restrict their target to a single or small group of related sectors. Examples might include measures focusing on biotechnology, IT, energy or nanotechnology applications.

PL2 Modalities (how support is provided) (Please tick all options that apply)

There are a number of ways that measures and programmes may be delivered. Here we ask to select from a number of options.

2.1 *Direct financial support* (grants, loans, guarantees, contracts, etc.

2.2 *Direct financial support* (scholarships, fellowships, etc.): Although fellowships are generally provided in the form of a grant, we make a distinction since fellowships often comprise a broader package of support.

2.3 *Direct financial support* ((non-project specific) institutional block grants including large centres: These are institutionally targeted grant support intended to stimulate or maintain specific types of RTDI activities. Generally, the recipient institution has some degree of autonomy over how the support is utilised.

2.4 *Indirect financial support* (tax & fiscal incentives e.g. R&D credits): Support is not given for specific projects, but for a certain type of activity, mostly research and development. The support is not given as a grant or loan, but as a reduction of the tax burden of a company.

2.5 *Infrastructure support* (e.g. provision of access to and construction / upgrading of research infrastructure): This can include large-scale infrastructure construction or provision, capital support or equipment grants.

2.6 *Non-financial support* (e.g. training, coordination and advisory / information support / provision): This includes any type of support that does not rely on the direct provision of finance (or on financial offsetting). This option refers to the main form of support; it should not be ticked if such support is provided as a minor subsidiary element of a larger programme of support.

2.7 *Prizes and awards* (ex ante inducement, ex post performance recognition, etc.): These include recognition and financial rewards intended to stimulate research and innovation on certain topics (with specific targets) or recognition and financial rewards intended to confer acknowledgement of past achievements.

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RESEARCH INFRASTRUCTURE FOR SCIENCE
AND INNOVATION POLICY STUDIES

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PL3 Explicit policy objectives (why support is provided) (Please tick all options that apply)

The third dimension of our policy typology is defined by the primary policy goals that are intended to be met by the measure / programme. While measures and programmes, particularly those in support of innovation, may have a number of indirect outcomes and impact a number of policy objectives, we are interested only in the main explicit objectives addressed by the measure. Again, multiple options may be selected.

3.1 *Enhancement of education and initial / further training*: This includes measures that aim to improve the level and capacity of all forms of education and training, both in the public sector and in the private sector.

3.2 *Facilitating personnel mobility*: This can include both inter-sectoral mobility and international mobility, including short term (travel grants) or long term (fellowships, etc.)

3.3 *Internationalisation of research, technological development and innovation (RDTI) activities*: Examples could include international collaboration programmes, personnel mobility schemes (see also above), large-scale facility sharing, multi-national research programmes, etc.)

3.4 *Awareness raising and promotion of public acceptance*: Measures intended to promote public understanding of S&T and also to stimulate public acceptance and demand for new technologies, etc.

3.5 *Strengthening / improving research management practices*: Measures intended to develop and improve management capabilities, either through managerial skills training or similar approaches.

3.6 *Improving capabilities and capacity (including absorptive capacity)*: This includes measures intended to strengthen the RDTI capabilities and capacities of the recipient entities, through developing skill-sets, developing RDTI experience, accessing additional staff and / or equipment, etc.

3.7 *Supporting collaborative interactions for the production of new knowledge and / or innovation* (including project-focused approaches, some types of innovation vouchers, etc.): These include measures that explicitly focus on the objective of developing collaborative RDTI activities with a significant element of joint knowledge production and / or exchange. Thus, the provision of services alone would not be relevant.

3.8 *Supporting broader (multiple) interactions (e.g. through clusters or networks)*: Measures intended to develop collaboration and knowledge exchange on a wider (geographical or virtual) extent than those included in 3.7, including multiple parties.

3.9 *Supporting the production of IP*: Any measures aimed at protecting IP, increasing awareness about the protection of IP and improving confidence in the production and use of IP.

3.10 *Mobilising additional (non-public) financing for innovation (e.g. support of business angels, VCTs, equity schemes, etc.)*: Schemes or measures intended to improve access to finance for the support RTDI-related activities and purposes. Such finance can be provided from private (corporate or individual investment sources) but should involve some form of public support either in the form of administration and awareness raising or through the provision of incentives to investors (matched funding, tax breaks, etc.).

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AND INNOVATION POLICY STUDIES

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3.11 _Stimulation of additional RTDI activity (e.g. increasing R&D expenditures):_ These include programmes and measures intended to stimulate input additionality on the part of recipients, rather than simply "buying" research and innovation activities, although it can arise through the recruitment of additional staff or the purchase of new infrastructure.

3.12 _Strengthening the quality of RDTI activities (promotion of excellence_): These include programmes and measures intended to improve the quality of research and innovation, for instance based on criteria of excellence.

3.13 _Creating new RDTI capacity (e.g. new organisations, start-ups, technology-based companies, etc.):_ This concerns the creation of new entities rather than the expansion of existing facilities, staff, etc.

3.14 _Generation or diffusion of innovation targeting the demand for innovation or the interaction between demand and supply_ (e.g. programmes to support public procurement of innovation, demand subsidies of innovation and awareness raising measures.

3.15 T_o support priority setting (e.g. foresight exercises):_ This can include any measures intended to assist in the identification of RDTI priority areas / topics, such as horizon scanning, which typically but not exclusively, involve the input of stakeholders.

Section 0: Information of the evaluation

0.1 What is the title in English of the evaluation?
Many of the evaluation reports that will be included in SIPER are published in their national language and are often unavailable in English. However, here we would like an English translation of the title of the evaluation report.

0.2 What is the title in the native language of the evaluation? If the native language is English, please put in the English title again.
If the evaluation report is not published in English, please give the title of the evaluation report in the original native language.

0.3 Please select which country the evaluation belongs to (if it belongs to more than one country, please select "Multiple Countries" at the bottom of the list; if it belongs to a supranational body such as the European Commission, please select "Supranational Bodies" at the bottom of the list)
This question refers to the country in which the evaluation report was commissioned. Note that this may differ from the country in which the measure or programme is managed or administrated. For example, a cross-border programme may be evaluated by an agency in one of the countries in which it is implemented: an example is the impact evaluations of the EU Framework Programmes which are often commissioned by a single national government.

> *0.3.1 Your answer to question PL0.3 is "Multiple Countries".* Which countries does the evaluation belong to? Please specify below, using a semicolon to separate different countries. For example, if the evaluation belongs to Finland and Sweden, input "Finland; Sweden".
> Please refer to the instructions for Question 0.3 above. Do not enter the countries in which the

measure / policy is implemented unless these correspond to the location of the country commissioning the evaluation.

0.3.2 Your answer to question PL0.3 is "Supranational Bodies". Which supranational body / bodies does this evaluation belong to? Please specify below, using a semicolon to separate different supranational bodies. For example, if the evaluation belongs to OECD and EU, please input "OECD; EU".

Please refer to the instructions for Question 0.3 above. This answer corresponds to the body / bodies responsible for commissioning the evaluation.

0.4 Year of first publication:

Please give the year in which the evaluation report was first published.

0.5 Please put down the code of the evaluation if known.

For example, the evaluation titled as "Evaluation of the Austrian Industrial Research Promotion Fund (FFF) and the Austrian Science Fund (FWF)" has been automatically coded by SiperPortalBasic as E_AT_003, then you should put down "E_AT_0003" below. If you don't know the evaluation code, please ignore this question (it will be allocated at a later dare).

Section 1: Basic Characteristics

This section refers to some basic information about the evaluation.

1.1 Who conducted the evaluation? (Please tick all options that apply)

Note that several of these options may apply to a single evaluation, although such instances are uncommon.

a. _Internal to programme:_ The evaluation was conducted by the agency responsible for the management and / or administration of the programme or measure.

b. _External to programme_ (within government, including court of auditors): The evaluation was conducted by a body or unit not connected with the management or administration of the programme or measure. For example, some government departments have internal audit or evaluation units, which undertake evaluations of programmes, run by their parent ministry.

c. _External to programme and government_ ("independent"): Typically, this would include evaluations conducted by external consultancies or specialised evaluation bodies in the private or academic sectors.

d. _Not specified in the report:_ The report does not state by whom the evaluation was conducted.

1.2 What was the timing of the evaluation? (Please tick only one option)

a. _Ex ante (before the implementation of the measure / programme):_ The evaluation (sometimes referred to as "ex ante assessment) was conducted at some point prior to the implementation of the programme or measure, typically during the design and planning phase.

b. _Accompanying (on a permanent or repetitive basis during the implementation of the measure / programme)_: Accompanying evaluations tend to be performed on a frequent or even

continuous basis to provide more or less constant support throughout the programme lifetime. They often focus on specific aspects of the measure's performance (for example, management, uptake, etc.)

c. _Interim (periodic "ex post", after a specified phase during the implementation of the measure / programme)_: Interim evaluations tend to be held at specific points in the lifetime of the programme or measure. Many programmes that do not have fixed lifetimes are subject to interim evaluations, typically every few years.

d. _Ex post final (after the lifetime of the measure)_: These may be conducted immediately or after some time following the end of a measure / programme that has a fixed lifetime.

1.3 _What was the purpose of the evaluation?_ (Please tick all options that apply)

a. _Summative_ (descriptive, judgemental): Summative evaluations (also known as impact evaluations) are judgemental and establish the effects of programmes, the difference made on the target group or beyond.

b. _Formative_ (developmental, supporting): Formative evaluations ask how, why and under what conditions does a policy instrument work, or fail to work? They typically seek information on the contextual factors, management practices, mechanisms and processes underlying success or failure, and their main purpose is to support learning during the programme.

c. _Other_ (please specify)

1.4 Does the evaluation refer to the programme logic or its intervention rationale? (Please tick only one option)

All measures and programmes should be informed and guided by an underlying reasoning for their introduction, which is often based on an identified "failure" or gap in the system. Sometimes, the design of a programme or measure is informed by the creation of a logic chart, which sets out to unpack the theoretical or logical sequence by which a policy intervention is expected to bring about its desired effects. Some evaluations may re-visit the original design process of the programme / measure and reproduce or reconstruct the logic chart, which sets out the objectives, aims, activities, results, outputs, impacts and effects anticipated from the measure. Other evaluations may re-state the original objectives of the measure and describe precisely how the measure was designed and implemented in order to deliver these. Please note: your answer should be based on what is explicitly reported in the evaluation report itself not on what you may know about the programme or measure being evaluated.

a. _Yes, fully it clearly refers to the rationale for its development and identifies the way in which the intervention achieves the stated objectives (e.g. by using a logic chart model)_: Here, the evaluation report will clearly explain the underlying rationale for the establishment of the programme or measure why it was set up, what issues it is set out to address together with its stated expected objectives and effects, and it will make explicit the way in which these effects will be achieved.

b. _Yes, partially it refers in a broad sense to the original rationale for establishing the programme / measure_: Here, the evaluation report will refer to the underlying rationale of the programme or measure in a less detailed manner, for example "to address a shortfall in the provision of

seed funding to SMEs" or "to stimulate collaboration between the university and private sectors" but with no explanation of how the measure / programme was intended to address these problems. It will also not be very explicit in explaining the steps with which the intervention will achieve its aims.

c. _No_: There is no reference in the evaluation report to the underlying rationale of the measure.

Section 2: Topics Covered

2.1 Which aspect of the programme did the evaluation examine? (Please select "yes" only when the aspect is explicitly evident in the actual report. For each row, please make a choice.)
On which aspects of the programme did the evaluation provide evidence? In this case, the word "examine" means not just providing numbers or giving a brief statement or mention the topic the topic should be discussed within the text, and should involve an element of in-depth analysis.

2.1.1 Appropriateness of the underlying programme rationale of the measure (does the evaluation examine if the programme is appropriate for the failure or need it addresses?): Further to Q1.4 above does the evaluation examine and present evidence regarding the appropriateness of a failure or need that the programme or measure being evaluated addresses i.e. does it test the programme with regard to its underlying rationale and its specific context?

2.1.2 Appropriateness of goals (does the evaluation examine if the measure's goals were appropriate and consistent with the external challenges the measure was meant to address?): Developing on the above issue, the goals of the measure or programme being evaluated should align with the external challenges that it was intended to address: does the evaluation provide any evidence on its consistency?

2.1.3 Appropriateness of design / modality of the measure (does the evaluation examine whether the design / modality of the measure was appropriated to achieve stated goals?): Again following the above logic, the design / modality of a measure / programme should be appropriate to achieve its stated goals: does the evaluation provide any evidence of how the programme or measure's design was consistent with its intended goals? In order to answer "yes". the design of the measures should be examined against the achieved goals; it is not enough just to name them or compare them together.

2.1.4 Coherence / complementarity (does the evaluation examine whether the measure was coherent with, and complementary to, other programmes or policy initiatives?): Measures and programmes frequently exist in a broader suite of similar or complementary policy instruments which may address the same or partially overlapping goals / objectives and / or target groups. Does the evaluation report present any evidence on whether the measure was coherent with, and complementary to, any other co-existing programmes and policy initiatives?

2.1.5 Goal attainment / effectiveness (does the evaluation examine whether the goals of the measure were achieved?): Does the evaluation report examine (and present evidence on) the achievement of the intended goals of the programme or measure being evaluated?

2.1.6 Outputs (does the evaluation examine the direct, immediate results of the measure?): Does the evaluation report examine (and present evidence on) the outputs and results of the measure or programme being evaluated?

*2.1.6.1 Quality of outputs: In Question 2.1.6, you have indicated that this evaluation provides evidence on outputs. Does the evaluation examine whether the outputs of projects were of high quality?: The report should explicitly examine the issue of quality of outputs using some criteria or metrics for any justification qualitative assessments made by interviewees or survey respondents would satisfy this requirement whereas an unsupported statement that the outputs were of high quality would not.

2.1.7 Outcomes and impacts (does the evaluation examine the effects and consequences of the policy measure? Impacts imply a longer term and broader form of effect): Further along the timeline of a measure / programme, this question seeks to assess whether the evaluation report examines (and presents evidence on) its effects and consequences. In this context, impacts imply longer term and broader form of effect.

*2.1.7.1 In Question 2.1.7, you have indicated that this evaluation provides evidence on outcomes and impacts. Does the evaluation examine the geographical scope of outcomes and impacts?: Does the evaluation report present evidence on and make comparisons about the geographical scope of any of its outcomes and impacts?

*2.1.7.2 In Question 2.1.7.1, you have indicated that this evaluation examines the geographical scope of outcomes and impacts. At what geographical level(s)?: Please indicate the appropriate geographical level to which the evidence on outcomes and impacts relates to. Regional refers to the sub-national level and supranational refers to outcomes and impacts across several countries. For example, an evaluation of an EU-supported measure might be expected to have impacts across the entire EU.

*2.1.7.3 In Question 2.1.7, you have indicated that this evaluation provides evidence on outcomes and impacts. Does the evaluation examine the following impacts / effects? (Please tick all options that apply): Impacts and effects may take several forms; they may be restricted scientific and technological effects or may have wider impacts. The scope of these impacts will be dependent on the nature of the measure / programme itself. In addition, these impacts may be felt at several levels from the individual, at the organisational level or across an entire scientific area or technological sector. Please remember we are seeking to find out if the evaluation report presented evidence of the impacts and effects of the measure / programme on these various areas.

*2.1.7.4 In Question 2.1.7, you have indicated that this evaluation provides evidence on outcomes and impacts. Does the evaluation examine unintended impacts / effects?: In addition to the expected or desired impacts and effects, programmes and measures may have unintended impacts and effects (regardless if they were in line with the policy goals, i.e. desirable, or not. Did the evaluation present evidence and discuss any of these? A brief mention of any potential outcomes and impacts would not count as evidence.

2.1.8 Value for money / return on investment / cost-benefit efficiency (does the evaluation examine if there were adequate returns on investment?: Does the evaluation report examine (and

present evidence on) whether there were adequate returns on investment, for example in terms of representing value for money, return on investment (ROI) or cost-benefit efficiencies?

2.1.9 Programme implementation efficiency (does the evaluation examine if the measure was will managed and administered?): Does the evaluation report examine (and present evidence on) whether the measure was well and cost-effectively managed and administered?'

2.1.10 Additionality (does the evaluation examine the issue of input, output or behavioural additionality? Note: the evaluation may use alternative terms for additionality such as "incrementality, "added value", "return on investment", "persistent behavioural change", etc.): Additionality is the change that can be attributed to the existence of the measure or programme, i.e. what the additional effect of the programme is, as compared to what would have happened in its absence. Three forms of additionality are generally examined: input, output or behavioural additionality. See below for a description of each of these terms.

> **2.1.10.1 In Question 2.1.10, you have indicated that this examines issues of additionality. Which type(s) of additionality does the evaluation examine?* (Please tick all options that apply)

> a. _Input additionality_ (e.g. does the evaluation report examine if the measure stimulated more investment in RTDI than would have occurred in the absence of the measure?)

> b. _Output additionality_ (e.g. does the evaluation report examine if the measure stimulated more RTDI outputs than would have occurred in the absence of the measure?)

> c. _Behavioural additionality_ (e.g. does the evaluation report examine if the measure stimulated persistent change in the behaviours of the participants that would have not occurred in the absence of the measure?

2.1.11 Policy / strategy development (does the evaluation examine any implications for future strategy development and policy formulation?): Does the evaluation report examine (and provide evidence on) implications for future strategy development and policy formulation? This may be reflected in the evaluations recommendations (if present) but we are trying to assess if any evidence on which such recommendation can be based is presented in the report.

2.1.12 Gender issues (does the evaluation examine gender issues?): Does the evaluation report present and discuss any evidence that is of relevance to gender issues?

2.1.13 Minority / inclusivity issues (does the evaluation examine minority / inclusivity issues?): Does the evaluation report present and discuss any evidence that is of relevance to minority or inclusivity issues?

2.1.14 Uptake of programme (does the evaluation examine the extent to which the programme attracted applicants? For, example, the success rate of applications, the response rate from applicants, etc.): Does the evaluation report examine (and present evidence on) the extent to which the programme attracted applicants?

2.1.15 Degree of satisfaction of stakeholders (does the evaluation examine the extent to which the policy satisfied stakeholders' needs / expectations? Does the evaluation report present (and

present any evidence on) the extent to which the policy measure / programme satisfied or met the needs and / or expectations of stakeholders?

2.1.16 Collaboration / partnerships (does the evaluation examine the issues of collaboration and / or partnerships? (e.g. the performance of joint research projects))?: Does the evaluation report examine (and present evidence on) the issue of collaboration and / or partnerships? This may not be a relevant issue for all programmes and measures, however.

*2.1.16.1 In Question 2.1.16, you have indicated that the evaluation examines the issues of collaboration / partnership. What was the sectoral nature of collaboration /partnership examined (the following options include both individual level and organisational level collaboration / partnerships)? (Please tick all options that apply): Note that we regard collaboration as an inter-organisational phenomenon in this question, although the collaboration may take place between individuals located in those organisations. Options are (and multiple options that apply):

a. *Firm-Firm:* i.e. between private sector entities alone.

b. *Non-Firm* (universities, research organisation and third sector organisations etc.)-Firm: i.e. between a firm and, generally speaking, a public sector or non-for-profit agencies.

c. *NonFirm-NonFirm* (universities, research organisations and third sector organisations etc.): i.e. between public sector or non-for-profit sector organisations alone.

d. *Not specified in the report*: No mention is made in the report on the types of entities involved.

*2.1.16.2 In Question 2.1.16, you have indicated that the evaluation examines the issues of collaboration / partnership. What geographical level of collaboration / partnership does the evaluation examine? (Please tick all options that apply): At what level does the collaboration examined in the report take place between actors within a region, between actors at the national level or between actors in different countries (international)?

*2.1.16.3 In Question 2.1.16 you have indicated that the evaluation examines the issues of collaboration/partnership. What forms of collaboration / partnership does the evaluation examine? (Please tick all options that apply): Does the evidence on collaboration that is presented in the report relate only to interactions between two parties (i.e. bilateral relationships) or between more than two parties (multilateral relationships)? For example, a "twinning" programme linking pairs of firms would examine bilateral relationships, while a networking programme would involve multilateral relationships.

2.1.17 Mobility (does the evaluation examine the issue of mobility of personnel? Does the evaluation report examine (and present evidence on) the issue of mobility of personnel? In this context, mobility may apply to international movement, inter-sectoral movement (e.g. public sector to private sector, or vice versa) or movement between institutions, for example.

*2.1.17.1 In Question 2.1.17, you have indicated that the evaluation examines the issue of mobility. What scope of mobility does the evaluation examine? (Please tick all options that apply): We wish to know at what level does the mobility examined occur, i.e. at the national level only (movement within a single country) or at the international level (movement across borders)?

RISIS
RESEARCH INFRASTRUCTURE FOR SCIENCE
AND INNOVATION POLICY STUDIES

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2.1.18 Career (does the evaluation report examine the issue of career development / progression?): Are effects of the programme or measure on the (research) careers of the participants examined and discussed in the report?

2.1.19 Networking (does the evaluation examine the issue of networking? e.g. the creation of virtual communities, e-platforms, workshops, information dissemination channels): Networking may form a specific objective of the programme or measure being evaluated, although it may often arise as an unintended consequence, Is any evidence of this presented and analysed / discussed in the report?

Section 3: Evaluation Design

3.1 Which type(s) of design approach did the evaluation employ? (Please tick all options that apply)

a. *Experimental:* Experimental research methods provide evidence about the relative effectiveness of a policy intervention compared with other policy interventions, or doing nothing at all (e.g. the counterfactual). They may utilise two samples (an experimental group and a non-experimental (i.e. control) group to attempt to isolate the effects of participation in the policy or programme under investigation.

b. *Quasi-experimental:* Quasi-experimental methods include research designs that compare the outcomes of experimental and control groups by methods other than randomisation. These include: controlled before and after designs (pre-test and post-test comparisons) using either a single group of samples or two or more groups of samples; interrupted time series studies (based on repeated observations over time of valid and reliable standardised measures of outcome); various types of matching designs using matched comparisons of individuals or units before and after an intervention; regression discontinuity designs.

c. *Non-experimental:* Non-experimental methods can include in-depth interviews, observational methods, participant observation and ethnography.

*3.1.1. In question 3.1, you have indicated that a quasi-experimental design approach has been employed. Please specify which of the following approaches were used. (Please tick all options that apply)

a. *Before / after comparison*: Before / after comparisons involve the comparison of data from the same sample at two separate periods in time.

b. *Comparison / control groups:* Comparison or control group methods involve comparisons of data from a sample of supported actors / organisations and a sample of actors / organisations that are as similar to the supported group as possible, nut have not been supported.

c. *Beneficiary self-reporting on the counterfactual (what would have happened in the absence of the programme, etc.):* Beneficiary self-reporting is a more subjective approach, which involves asking the recipient / target of the measure what would have happened in the absence of the programme e.g. if funding had not been provided.

3.2 Did the evaluation include comparisons between the evaluated measure and similar measures?:
Some evaluations may compare or benchmark the performance of the measures, or aspects of its performance, against similar or comparable measures in operation in the same country or in other countries. Here we mean some form of analytical comparison or in-depth examination between the specific elements and characteristics of the programme / measure and similar measures, rather than a trivial reference to other programmes or measures.

3.3 Did the evaluation include benchmarking against outcomes of previous phases / evaluations of the measure / programme?
If previous evaluations of the measure or programme have been conducted or if monitoring data exists, the evaluation may benchmark its results against these to provide some sort of comparison over time. This is often the case for interim evaluations of programmes / measures with long lifetimes. Again, we refer here to thorough discussions / examinations of the comparison data / information rather than simplistic descriptions.

Section 4: Data Collection Methods

4.1 According to the report, which data collection methods and data sources were employed in the evaluation?:
Evaluations may employ several methodologies and approaches to collect data and related information on the programme or measure. We have identified the main approaches and sources below, but other approaches may also be used and we have provided space for these to be added in free text format. Note that this series of questions does not concern the quality of the methods employed, we will investigate this aspect in Section 6, here we are interested only in whether these approaches are reported in the evaluation report.

4.1.1 Existing databases and monitoring data (and Q 4.1.1.1): This may include monitoring data collected internally through the implementation period of the programme / measure and / or existing external databases (e.g. the Science Citation Index).

*4.1.1.1 In Question 4.1.1, you have indicated that existing databases and monitoring data have been employed. What types of existing databases and monitoring data were employed? (Please select all options that apply):

a. *Existing internal databases and monitoring data:* These would include data collected and maintained by the programme management, often for administrative purposes but beyond simple details such as participant names and contact details.

b. *Existing external databases and monitoring data:* These would include databases such as those covering publications, e.g. PubMed, Science Citation Index and Patent Office data files.

c. *Not specified in the report*

4.1.2 Surveys (and Q4.1.2.1): These include all forms of survey, e.g. on-line, emailed, postal or face-to-face questionnaires. The latter typically employ large closed (yes / no, multiple choice, etc.) questions, whereas interview pro-formas typically use a high proportion of open questions.

4.1.2.1 In question 4.1.2, you indicated that surveys have been employed. What types of surveys were employed? (Please tick all options that apply):

a. *Participants* (e.g. programme beneficiaries, those in receipt of support).

b. *Non-participants*: Those that did not participate (regardless if they applied or not).

c. *Unsuccessful applicants:* Those who applied for support but were unsuccessful. This is a subgroup of b).

d. *Non-applicants* (i.e. members of target group that did not apply): In some cases, the report may identify non-participants that have not applied. This would be a subgroup of b).

e. *Stakeholders directly linked with the programme* (e.g. representatives from organisations funding, owning and managing the policy measure).

f. *Other parties / stakeholders* (e.g. associations, representatives of comparative programmes, initiatives, context experts and politicians). Please specify: Typically, these will not be directly linked to the programme or measure.

g. *Not specified in the report*.

4.1.3 Interviews (and Q4.1.3.1): These may be conducted via a range of media, e.g. face-to-face, telephone, Skype, etc.

4.1.3 In Question 4.1.3, you have indicated that interviews have been employed. Who were the interviewees? (Please tick all options that apply):

a. *Participants* (e.g. programme beneficiaries, those in receipt of support)

b. *Non-participants:* Those that did not participate and did not apply for support. In some cases, it may not be known whether non-participants were also unsuccessful applicants.

c. *Unsuccessful applicants:* Those who applied for support but were unsuccessful for a range of reasons.

d. Non-applicants (i.e. members of the target group that did not apply): Although these may be the same group b. Non-applicants, it may be possible in some cases to distinguish those from the target group that actively chose not to apply for support / participate.

e. *Stakeholders directly linked with the programme* (e.g. representatives from organisations funding, owning and managing the policy measures)

f. *Other parties / stakeholders* (e.g. associations, representatives of comparative programmes, initiatives, context experts and politicians). Please specify: Typically, these will not be directly linked to the programme or measure.

g. *Not specified in the report*

4.1.4 Focus groups / workshops / meetings: These can be used to collect a broad range of qualitative information and also to stimulate discussion and debate to investigate a range of issues and perspectives concerning the programme / measure. They generally involve groups of participants or stakeholders in a moderated discussion.

4.1.5 Peer reviews (including stakeholder reviews): The use of peer opinion is frequently employed in evaluation process, although it is predominantly used in ex-ante assessments. Similarly, stakeholders may also be approached for their opinions on the performance and other aspects of the programme or measure. Peer reviews may be conducted using interviews or surveys of individual peer reviewers, or collectively with a peer review panel.

4.1.6 Formalised data on intellectual property (patents, including other related sources such as copyrights, trademarks, utility models, etc.): This type of data collection refers to the capture of codified information on manifestations of intellectual property arising from the programme or measure.

4.1.7 Publications data: This typically, covers scientific and academic publications, but may also include grey literature, reports and other outputs. In this instance, we distinguish it from patent data which is covered under Q 4.1.6.

4.1.8 Altmetrics data (twitter, download statistics, etc.): A more novel approach utilising bibliometric data and information on social interactions, altmetrics looks at a range of data sources derived from on-line social media.

4.1.9 Curriculum Vitae (CV) data: Important data may be derived from the CVs of programme participants, for example in tracking career development profiles.

4.1.10 Longitudinal / tacking data collection methods / sources: These approaches involve collecting information either from monitoring data or through ex post surveys and interviews to determine the effects of the programme or measure on career progression or on long-term company performances, for example.

4.1.11 Site visits: These are generally employed in the evaluation of institutions or scientific facilities. They involve an intensive analysis by a team of knowledgeable peers and / or stakeholders often carried out over a period of several days, during which staff and management will be interviewed individually or collectively.

4.1.12 Other data collection methods / sources (please specify): We may have omitted other types if data collection approaches, in which case please provide an example as a free text entry.

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This project is funded by the European Union
under Horizon2020 Research and Innovation
Programme Grant Agreement n°824091

Section 5: Data Analysis Methods

5.1 Which data analysis methods / approaches were used in the evaluation?

Here we are only interested in approaches that were employed in the evaluation and which are explicitly described in the evaluation report. References to approaches and methods used in preceding or similar evaluations should not be included.

5.1.1 Case study analysis:
Case studies are typically undertaken to provide in-depth analysis of processes and outcomes. They are used to provide detailed examinations of a particular instance of the phenomenon under investigation. They may focus on a particular aspect of the programme or measure, such as a specific project, or on a specific firm or institution impacted by the programme or measure. Generally, they focus on a restricted number of participants or beneficiaries. They typically involve a number of data collection methods, but tend to focus on qualitative methods such as document analysis and interviews.

5.1.2 Network analysis:
This is an approach that aims to map the social interaction between the subjects of an evaluation including the beneficiaries e.g. those receiving a grant.

5.1.3 Econometric analysis: This involves the use of techniques drawing on advanced statistical methods such as regression analysis, instrumental variables and Heckman style selection models, or advanced economic modelling approaches in order to ascertain the influence of programme variables (as independent variable, such as a grant or a provision of advice) on a dependent variable (such as change increase of sales with novel products).

5.1.4 Descriptive statistics:
These are approaches that use basic descriptive statics, quantitatively describing and analysing the main features of a collection of information related to the programme to analyse the data (such as uptake analysis, i.e. the extent to which target beneficiaries have taken up the support provided by a programme or support measure). In contrast to inferential statistics, descriptive statistics do not analyse how one variable (e.g. number of firms participating) influence another on (overall economic benefit).

5.1.5 Input / output, cost / benefit, return on investment analysis:
These are methods used to characterise economic activity triggered or enhanced by the intervention in a given time period, and to predict the reaction of a programme beneficiary (typically a firm) to stimulation. Basically they compare the input to the participant or the cost to the policy provider (i.e. the grant award, for example) to the economic outcomes arising from participation. Terms such as "leveraging" and "gearing" may be used.

5.1.6 Intellectual property (IP) data analysis:
These are techniques which use IP data,, such as patent statistics, as the unit of analysis in a range of statistical analysis and models, including technometric approaches. Citation analysis may also be applied to patent data.

> *5.1.6.1 In Question 5.1.6, you have indicated that IP data analysis has been employed. Did the IP analysis include an analysis of citations? Citations of patent data may be used as a proxy indicator of the quality or extent of impact of the patent.

5.1.7 Publications data analysis: These techniques utilise data on published outcomes (generally arising from the participants in a programme or measure). Typically, such data includes scientific or academic journal articles although other forms of published outputs may be used. Such approaches include bibliometric techniques such as publication counting and citation analysis.

*5.1.7.1 In Question 5.1.7, you have indicated that publication data analysis has been employed. Did the publications data analysis include an analysis of citations? Citation analysis is a frequently employed technique used to provide an indication of the quality or impact of publications.

5.1.8 Altmetrics data analysis: As noted above, this is a more novel approach to using bibliometric data and information on social interactions and examines a range of data sources derived from on-line social media.

*5.1.8.1. In Question 5.1.8, you have indicated that Altmetrics data analysis (twitter, downloads statistics, etc.) has been employed. Please specify: As this us a relatively new form of data analysis, we are interested in the specific type of altmetrics approach employed.

5.1.9 Qualitative or quantitative analysis of texts: Again a new form of analysis, this approach uses automated text searching algorithms to identify interesting textual content and text associations. It is often referred to as "text-mining".

Section 6: Quality Issues

In this section, we are interested in your more subjective view of various aspects of the evaluation report and the approach used. Please not that, as in the preceding sections, we are only interested in aspects and characteristics of the evaluation that have been explicitly mentioned in the report itself.

6.1 Did the report clearly refer to the objectives of the measure / programme evaluated?
In framing an evaluation and the issues it is intended to address, it is often useful to explicitly refer to the objectives that the measure or programme was expected to achieve as these provide a point of reference for the subsequent data collection and analysis process.

6.2 Did the report clearly state the evaluation objectives?
Similarly, the objectives of the evaluation may not entirely match all aspects of the programme or measure being evaluated. it may only address a sub-set of programme activities or issues, a restricted set of programme participants or a specific time frame of the programme lifecycle. We are only interested in those objectives that are explicitly mentioned in the evaluation report.

6.3 To what extent do you agree / disagree with the following statements?
Here we are asking for your subjective judgement of a series of questions concerning aspects of the evaluation as reported in the evaluation report. The on-line version employs a series of sliders and values along the scale that correspond to the extent to which you agree / disagree with the specific question. As a rule of thumb, the scale can be divided into 20-point intervals, where:

0 = completely disagree

20 = disagree

40 = tend to disagree more than agree

60 = tend to agree more than to disagree

80 = agree to a large extent

100 = completely agree

Note that it is also possible to answer "not applicable", should this issue not be relevant to the evaluation.

Also, please note that your judgement should be made in the context of the stated and explicit objectives of the report and the nature and context of the policy measure, including any resource constraints that the evaluation may have encountered. Does the report (or rather the information it presents) meet the objectives of the evaluation? Overall, we are looking at the quality of the evaluation, given its particular context and not against an ideal benchmark that could have been achieved given infinite time and personnel resources.

6.3.1 The choice and balance of methods is appropriate given the stated objectives of the evaluation and the nature of the policy measure: According to the information presented in the evaluation report, was the selection of methods in the evaluation made in such a way that it was able to address the objectives and the nature of the policy measure or programme in an appropriate, comprehensive and satisfactory way?

6.3.2 The report reflects critically on the evaluation design and implementation of the chosen methodology, including consideration of its limitations: According to the information presented in the evaluation report, did the report provide a sound rationale for the design of the evaluation and the use of the methods employed? Did the report discuss or highlight any constrains or limitations that could have resulted (e.g. any inability to gain access to high-quality data)?

6.3.3 The information sources used in the report are well documented and referenced: Any information sources should be well referenced and details should be provided of their sources.

6.3.4 The analyses presented in the report was clearly based on data obtained by the evaluation: There should be a clear and logical link between the quality and type of data obtained and the analytical approaches used and results obtained. The analyses described in the evaluation report should be clearly based on the data obtained by the evaluation collection methodologies.

6.3.5 Given the objectives of the evaluation, the analysis documented in the report covers the broader context (e.g. societal, institutional, policy and economic contexts) appropriately: Did the evaluation examine the broader societal, institutional, policy and economic contexts, etc. in an appropriate manner? Note that the specific objectives of the evaluation (if stated in the evaluation report) may have not necessitated or may have even excluded such a broader-based analysis, thus in which cases such an analysis would not be expected.

6.3.6: The application of the chosen qualitative methods is appropriate and satisfactory, given the purpose / objectives of the evaluation: Where qualitative methodologies were employed for data collection and data analysis, was their use appropriate to the types of information available and the specified objectives of the evaluation?

6.3.7 The application of the chosen quantitative methods is appropriate and satisfactory, given the purpose / objectives of the evaluation: Where quantitative methodologies were employed for data collection and data analysis, was their use appropriate to the types of information available and the specified objectives of the evaluation?

6.3.8 The conclusions and recommendations are clearly based on the results of the evaluation analysis: The conclusions and recommendations of the evaluation (if provided) should be consistent with the results of the evaluation analyses. That is, the recommendations should be clearly drawn from and based on the outcomes of the data analysis

Section 7: Comments

7.1 If you have any further comments, please write them in the box below. Thanks.
Please use this space to add any comments or questions you have regarding any of the above questions and issues addressed. This can include explanations of why you have selected a specific response, or anything that is unclear and requires further explanation from the SIPER team.

ANNEX 6: SIPER Policy Measure Typology

Table 2: Science and Innovation Policy Measure Categorisation

1. Modalities (How support is provided)
1. Direct financial support: grants, loans, guarantees, contracts, etc.
2. Direct financial support: scholarships, fellowships, etc.
3. Direct financial support: (non-project specific) institutional block grants
4. Indirect financial support: tax & fiscal incentives (e.g. R&D credits)
5. (Indirect financial support norms, standards, regulations) NOT USED
6. Infrastructure support (e.g. provision of access to and construction/upgrading of research infrastructure)
7. Non-financial support (e.g. training ,coordination and advisory/information support/provision)
8. Prizes and awards (ex-ante inducement, ex-post performance recognition, etc.)
2. Targets (Recipient of the support)
1. Individuals (researcher, student, manager, entrepreneur, investor, etc.)
2. Universities (including sub-departments and institutions)
3. Research Organisations (including the spectrum from public (PROs) to private (RTOs))
4. Public organisations (governmental or quasi-governmental agencies, policy making organisations not directly involved in R&D)
5. Intermediaries (such as science parks, business incubators, technology parks, knowledge brokers, TTOs, etc.)
6. Firms (SMEs focused)
7. Firms (no size-specific focus)
8. Other funding organisations (NGOs, NPIs, Not-for-Profit, Charities)
9. Specific industrial sector targeted
10. Specific S&T field targeted
3. Policy objectives (Why the support is provided)
1. Enhancement of education and initial/further training
2. Facilitating personnel mobility (including career enhancement)
3. Internationalisation of RDTI activities
4. Awareness raising and promotion of public acceptance
5. Strengthening/improving research excellence, relevance and management practices
6. Improving absorptive capabilities and capacity
7. Supporting collaborative interactions for the production of new knowledge (including project focused approaches, innovation vouchers, etc.)
8. Supporting broader (multiple) interactions (e.g. through clusters or networks)
9. Supporting the protection of IP
10. Mobilising additional (non-public) financing for innovation (e.g. support of business angels, VCTs, equity schemes, etc.)
11. Stimulation of additional RDTI activity (e.g. increasing R&D expenditures)
12. Strengthening the quality of RDTI activities (promotion of excellence)
13. Creating new RDTI capacity (e.g. new organisations, start-ups, technology-based companies, etc.)
14. Diffusion of innovation (including creation or exploitation of new markets, public procurement of innovation)