

ANNEX B

PROTOTYPE QUESTIONNAIRE

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This manual summarizes the research questionnaire used by SNI to construct the innovation ecosystem in the participant countries in WP2 (Israel, Germany, Poland, Spain and France).

Inputs for identifying innovation policies through Experts' Workshop

Each participant research team (in the participant countries) is required to conduct an expert workshop.

The objective of the workshops is to formulate a creative, systematic and inclusive ranked list of key innovation variables. This analysis enabled us to visually show the key elements of demand-side innovation drivers, including consumers, businesses, labor markets, global markets and other channels and to indicate how these demand-side aspects of innovation interact with supply-side elements.

The aim of the experts' workshop is to identify fundamental **“anchors”** and **“processes”** that comprised the main elements of a country's innovation ecosystem and policies:

Definitions:

- **“Quality anchors”**: these are strengths, or core competencies, of the nation, on which innovation can be built. For example: The existence of a high level of human capital or the existence of strong world-class scientific and technological infrastructure.
- **“Processes and trends”**: these are processes that can enable countries to overcome strategic innovation weaknesses, or constraints, that hamper innovative initiatives and policies. For example: vocational training programs, tax incentives, R&D funding, etc.

Each workshop (one for each country) included **15-20 experts**, representing all key sectors and disciplines relevant to innovation:

- Senior government officials who deal with R&D policy (e.g. chief scientist)
- Entrepreneurs
- Senior managers from the high-tech industry
- Academics

Each research team compiled a list of experts and sent them an invitation to participate in the workshop.

Workshop Operation

The identification process is based on deep intimate knowledge of the experts and their familiarity with all aspects of the innovation policies, including informal and ill-defined ones.

Stage 1 - The experts are asked, **in turn**, to propose **one anchor** and it will immediately be placed up on the screen (see template in Fig.1: list of anchors sheet). Each anchor will add to the list of 'anchors' without discussion or controversy. After a first round of this process, additional rounds took place, until no more anchors were remain to be listed.

Stage 2 - After the list of 'anchors' is completed, to the satisfaction of the experts, a similar process is employed to list comprehensively the '**processes and trends**'. The experts are asked, **in turn**, to propose **one process**. The experts were asked to distinguish between '**demand-driven**' and '**supply-side**' (see template in Fig. 2: list of processes sheet). Each process will add to the list of 'processes' without discussion or controversy. After a first round of this process, additional rounds took place, until no more processes remain to be listed

Stage 3 - After compiling the list of **processes and trends** the conference host will ask the experts to rank them according to their importance. The ranking of the processes is performed as follows. Each participant received **15 points**. He or she is asked to distribute them among the processes. Each participant is asked to assign a maximum of 5 points and a minimum of 1 point to a single process. An assignment of partial points (e.g. 1/2 point) was not allowed (see template in Fig.3: process ranking sheet). The end result of this Workshop included a comprehensive crude list of anchors and ranked processes that reflect the views and insights of the experts.

Stage 4 - An evaluation procedure is followed by the research team members of each participating country. The first step in this procedure is to refine, compile and organize the lists of anchors and processes (e.g. drop or unify similar entries). The next step is to produce a **matrix of anchors and processes**. The anchors will be listed in rows and the processes will list in columns. The processes will list according to their ranking – from the highest to the lowest. Unranked processes are list after the ranked ones (see template in Fig. 4: Matrix of anchors and processes).

Stage 5 - When the matrices is ready, research team members performed **cross impact analysis**. The aim of this method is to identify the direction and the strength of the links between the various identified anchors and processes according to the following key for grading:

Key	Label
--	strong negative correlation between anchor and process
-	negative correlation between anchor and process
0	no correlation between anchor and process
+	positive correlation between anchor and process
++	strong positive correlation between anchor and process

A schematic example of the anchors-processes matrix using the above mentioned grading key is shown below for illustration purposes:

	Process 1	Process 2	Process 3	Process 4
Anchor 1	-	+	0	+
Anchor 2	0	-	++	-
Anchor 3	--	+		++

The final output of the workshop and the evaluation process included a complete graded matrix of anchors and processes (see template in Fig. 4: Matrix of anchors and processes).

Stage 6 - each participating team will provide a brief explanation on each one of the identified anchors and processes, with tangible examples and explanations (more in-depth analysis) on the important factor-cluster and the linkages identified. Please accompany this analysis with concrete examples of firms, products, and places.

Translation of research inputs to research outputs (Innovation Map)

The data generated in the brainstorming workshop will used by the SNI research team as inputs for further and more elaborate analysis. First, processes which did not receive any points in the ranking procedure were omitted from the analysis. Second, the original cross impact analysis key is transformed to a bipolar five-point Likert scale ranging from strongly negative link (1) to strongly positive link (5) and subsequent exploratory factor analysis established the validity of the developed scales, helped to avoid redundant items and assured the association of each item to a single scale. The next methodological step included the classification of processes and anchors into groups. The processes were grouped according to the results of the

factor analysis. The classification of anchors into clusters did not involve a similar mathematical procedure and was based on logic. In the final step of this methodological exercise, an innovation map will be produced, based on the results of the final matrix.

Fig.1: list of anchors sheet

Experts Workshop - Mapping National Innovation Ecosystems	
List of quality anchors (Stage 1)	
Number	Anchor Name
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Fig. 2: list of processes sheet

Experts Workshop - Mapping National Innovation Ecosystems		
List of processes (Stage 2)		
Number	Process Name	Demand-side (D), Supply side (S) or both (D S)?
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