NETGROW

Enhancing the innovativeness of food SMEs through the management of strategic network behaviour and network learning performance

Project/Contract number: 245301

Call identifier: FP7-KBBE-2009-3

Funding scheme: Collaborative project

Start date of project: 1 May 2010

Duration: 48 months

D 3.2b Comparative study of network attributes

Due date of deliverable: February 2012
Actual submission date : February 2012

Organisation name of lead beneficiary for this deliverable: UNIBO
Prepared by: UNIBO DavideViaggi, David Cuming, Meri Raggi

Project funded by the European Commission within the Seventh Framework Programme (2007-2013)		
Dissemination Level		
PU	Public	x
PP	Restricted to other programme participants (including the Commission	
RE	Restricted to a group specified by the consortium (including the	
CO	Confidential, only for members of the consortium (including the Commission Services)	

1

Table of contents

1. Introduction and objectives

This document represents D3.2 of the project NETGROW, based on work carried out in WP3 task 3.2, namely the 'Delphi rounds'. The purpose of the Delphi was to support the selection of the most relevant attributes in determining SME participation in innovation networks and in contributing in innovativeness by SMEs.

This activity builds on the first part of task 3.2, that yielded a list of relevant attributes based on the national brainstorming sessions in which the stakeholders were "asked about attribute descriptions (structure, functional relationship with innovation attitudes), suggested levels (number, description), interpretation of levels (in terms of innovation), and compatibility between attribute levels."

The remainder of the document is organised as follows. In section 2 we illustrate the methodology used in the NETGROW Delphi exercise, in section 3 we provide the results and a discussion and conclusions are provided in section 4. The two questionnaires are included in the annexes, together with invitation letters, introductory letters and the list of experts involved.

2. Methodology

2.1. The Delphi method

The Delphi is a well-known method among participatory approaches to socio-economic research and strategic management. The Delphi method is based on an iterative interview of a number of experts. Questionnaires are submitted in repeated rounds up until the point at which there is a convergence in the views of the participating experts. After the first round, the results are analysed and a new questionnaire is then prepared for the following round, highlighting convergences and divergences of opinion. The specificity of the method is that experts work in isolation, avoiding distortions from leadership and interactions with others (Dalkeyand and Helmer 1963). It can be used for qualitative means only, or also resort to quantitative information either concerning numerical forecasts/assessments or scoring systems among the different items considered.

The Delphi is particularly suited to exposing all relevant opinions and options for complex issues, particularly when the issue considered is poorly defined and/or controversial. The main fields of use, particularly at the beginning of its history, were related to technology forecasting. The Delphi is also used to elicit the comparative importance of a list of issues, by asking panellists to provide scores or rankings. The method is more or less demanding in terms of resources, depending on the number of experts involved and the number of rounds required (viWTA, 2005).There are several variants of the Delphi procedure depending on the resources available and the problem addressed (Cuhls, 2005).

The Delphi is increasingly used in management decision making and research, and attempts have been made to systematise the procedure and provide guidelines in order to yield robust results, in particular with respect to the selection of experts and design of the study (see e.g. Okoli and Pawlowski, 2004). The issue of how to provide and manage numerical information about the relevance of items in Delphi rounds has also been an important issue in the literature since the early development of the method (Schmidt, 1997).

Various examples in the literature now refer to the food sector (e.g. Wentholt et al., 2009; Harmon and Maretzki 2006).

2.2. <u>Previous work in the project</u>

The analysis of the brainstorming results (D3.2a) yielded the following considerations:

- the national brainstorming sessions yielded a list of attributes that were reasonably consistent among countries and which varied in number in a range between 7 and 24 attributes;
- however, the contents of individual attributes, sub-attributes and levels were not always thoroughly explained in the brainstorming sessions and were very heterogeneous across attributes and countries;
- the understanding of the different attributes often seemed ambiguous, hence calling for further efforts to clarify definitions;
- the attributes identified by the brainstorming sessions can often have several qualifiers/sub-dimensions (e.g. network size can be measured in terms of number of firms, total turnover, market share etc.) and each qualifier/sub-dimension can have several levels;

Based on these considerations, the list of attributes and their definitions (as developed during the brainstorming sessions) was first revised and re-discussed internally by the project group in order to be adapted to serve the Delphi rounds and the following Conjoint exercise. Two main points arose for consideration:

- The guiding question for the National brainstorming sessions was: "what are the network characteristics SMEs would consider relevant when deciding to join an innovation network?"; this lead to the assumption that all attributes derived from the brainstorming refer to the issue of innovation networks; on the same grounds we assume that these attributes are those that would contribute to innovation in the participating firms; however, in at least one country this was not the case and in others it was not so clear-cut that this specific question was understood (from the discussion).
- The selection of the 20 attributes performed in D3.2a was not deemed to be completely satisfactory as it left out several attributes that those responsible for the national brainstorming sessions felt were relevant based on national priorities/preferences.;

2.3. <u>Attribute refinement for Delphi</u>

Before commencing the Delphi, a re-arrangement of attributes in terms of statement, definition, aggregation/disaggregation was performed. In doing so, we assumed the following:

1. The Bonn plenary brainstorming was held prior and its input was used in at least some of the national brainstorming sessions; hence we retained the Bonn attributes in the list of attributes (to have a more complete set of stated attributes), but used National brainstorming results as the key to understanding the importance and transversality of attributes.

2. Frequency of citation (across study areas/countries) of an attribute or its contents was used as a proxy for importance.

3. Attributes are sometimes repeated and sometimes stated with different wording but referring to similar contents.

Based on this, we identified the attributes for the first Delphi questionnaire using the following procedure:

1. We listed the attributes developed in the Bonn meeting and those listed in the national brainstorming (altogether 122 attributes); there were clear repetitions, overlapping and use of different terminology.

2. We then identified those attributes that are mentioned in the WP2case-studies , even if not explicitly mentioned in brainstorming sessions or merely included as sub-attributes of the others. The result is a broad mapping of attribute contents and the frequency with which it is mentioned.

3. We counted the number of occurrences and ranked attributes according to their number of occurrences across case studies. Of the 122 attributes, a few had a very high number of occurrences (e.g. only 2 have 6 occurrences), while about half of all attributes had only 1 occurrence.

4. We then started from the attributes that were most cited (according to the criterion above, check for overlappings etc.) and possibly modified the attribute to avoid overlapping, biases etc. and listed them as the candidate list of attributes. This has implied in some cases identifying sub-attributes; in other cases merging. Note that this exercise also modified the priority given that the number of occurrences could have been affected by the scope of each attribute. In total 22 attributes were maintained (see Annex II).

5. Finally, we attempted to devise levels to be shared with the respondents in the first Delphi round; however, upon testing, this proved to be at times confusing or misleading to the respondents. Therefore, we decided to start with a list of attributes and related definitions, using the sub-attributes previously identified (i.e. using the more focused list), without providing levels for the attributes.

6. The list was further refined, in particular by leaving out some of those sub-attributes that were not expected to be relevant for the issue of innovation.

The final list of attributes used and the attribute definitions are listed in the round 1questionnaire, in Annex IV. In the questionnaire, attributes are referred to as "characteristics" to make it more user-friendly and clear for the respondents.

2.4. Delphi procedure
The purpose of the Delphi in the NETGROW project is to support the identification of a list of the 5 most important attributes.

For NETGROW, the Delphi was initially planned to be a three-step procedure. However, in light of the time required for preparation and the need for internal refinement of the list of attributes, it was agreed to limit it in two rounds with the option of adding a third if needed to collect final feedback or clarification. The procedure builds on a list of attributes based on an improved selection of those identified through the national brainstorming sessions and the project meeting in Bonn.

The two steps were organised as follows:

1. First: a round of "voting" on a list of 22 attributes.

2. Second: a round of revision of the derived attribute list and individual voting, justification and expression of preferences for "opinion profiles" built through a cluster analysis of the results from the first round.

The questionnaire for the first round was organised into a table reporting the list of network attributes and definition and asking 4 questions:

Attributes:

- Number and name of attribute
- Characteristics of attribute
- Definition of attribute
- Questions:

1. What is the importance of the attribute for a SME when deciding to join a generic network? (column n. 3)

2. What is the importance of the attribute for a SME when deciding to join an innovation network? (column n. 4)

3. What is the importance of this network characteristic for a firm to learn from the network and to innovate? (column n. 5)

4. Do you find that this attribute overlaps or has the same meaning as other attributes in the list? Which ones? (column n.6)

Questions1 to 3were seen as complementary in order to avoid misinterpretations and to ensure that the specificity of question3 (the real focus of the questionnaire)was well understood.

2.5. Expert selection

Experts were selected from the countries that were involved in the brainstorming sessions (Italy, Ireland, Hungary, Sweden, Belgium and France). Initially 15-20 experts per country, were identified covering the triple helix and based on a mix of those that participated in the national brainstorming and additional experts. Additional experts were generally be selected by targeting, in particular, **SME representatives** that were not well represented in most of the national brainstorming sessions.

The target was to have at least 10 experts per country who accepted to follow the duration of the Delphi process.

The respondents were divided between SMEs (17 respondents), research/educational institutions (9 respondents) and public institutions (5 respondents). The institutions of the

ten (12) remaining respondents fell under the category 'other' (i.e. standards/certification body, consultancy firm, large producer cooperative, producer association consortium etc.)

2.6. Scoring/ranking

Scoring was used instead of ranking as deemed more suitable for the long list of attributes and to allow for a more precise statement of the differences/similarities between attributes. Scoring included three separate criteria (see contents of the questionnaire above, questions1 to 3). The main motivation for asking the three questions separately was to avoid ambiguities and misunderstandings, obliging the respondents to make a distinction between the different roles of attributes for joining generic vs. innovation networks and the importance of learning to be able to innovate.

However, the ranking (based on scores) was performed during the analysis of the first round results based on the final question (question 3).

A range between 0(unimportant) and 7 (extremely important) was used as this allows for a better fine-tuning of scores than a range with a lower number of grades and straightforward numerical interpretation.

3. Results

3.1. Questionnaires collected

In the first round 43 questionnaires were collected. In the second round, due to time constraint and decline by some of the experts, only 20questionnaires have been collected to date, of which 7 from Hungary and 5 from Belgium(Table 1).

Table 1 – Number of experts delivering the Delphi questionnaire

	1st round	2nd round
Belgium	8	5
Italy	7	2
France	7	4
Hungary	10	7
Sweden	3	2
Ireland	6	1
Total	43	21

3.2. Results of the first round

The results from the round 1 questionnaire for question 3 and 4 are reported respectively in Annex I and II.

The average results from round 1 questionnaires question 3 together with standard deviations, min, max and perceived overlappings are reported in Table 2, while average results by country are reported in table 3.

The results are rather consistent across countries and with the general average:

'5.08_Degree of internal information openness' is always in the first 5, except for Sweden (in which it is 6th).
'5.11_Clearness of goals' is in the first 5 except for Sweden and Hungary (and it is only ranked low on the list in Hungary).
'5.14_Main services provided by the network' is in the first 5 in only 3 cases and just above the middle in the others.
'5.01_Type of members' and '5.20_Relevant network goal for the firm' have more varied results.

Several overlappings between the attributes were highlighted by the respondents (see Table 2), in particular concerning the attribute related to the type of members, as this is clearly related to several other network features, However, the number of experts answering to this questions was relatively low (19 out of 43).

Table 2 – Question 5. What is the importance of this network characteristic <u>for an SME to learn from the network and to innovate</u>? - Score between 0 (unimportant) and 7 (extremely important).

Attribute	Av	Stadev	Min	Max	Rank	Overlaps w. (# recorded overlaps)
5.08_Degree int info openness	6,19	0,97	3	7	1	5.10 (6), 5-9 (39, 5.19 (4)
5.11_Clearness of goals	5,84	1,16	3	7	2	5.1 (2) 5.3 (1) 5.6 (1) 5.9 (1) **5.14(1)** 5.18(1) **5.20 (2)** 5.21(1) 5.22 (2)
5.14_Main serv prov by nw	5,78	1,32	1	7	3	5.12 (2) 5.13 (1) 5.18(1)
5.01_type members	5,55	1,56	1	7	4	5.2 (1) 5.3 (1) 5.4 (1) 5.5 (3) 5.6 (3) 5.9 (2) **5.11 (2)** 5.13 (2) 5.15 (39 5.16 (2) 5.17 (1) 5.18 1) 5.19 (1) 5.20 (1)
5.20_Rel nw goal for firm	5,51	1,61	1	7	5	**5.1 (1)** 5.3 (1) 5.4 (1) 5.5 (1) 5.6 (1) **5.11 (2)** 5.13 (1) 5.15 (1) 5.18 (1)
5.10_Pres common val will to collab	5,45	1,41	2	7	6	5.7 (1) 5.8 (6) 5.9 (4) 5.19 (3)
5.04_Variety ind sectors	5,34	1,58	0	7	7	
5.09_Deg commit members	5,25	1,58	1	7	8	
5.06_Links other nw or instit	5,21	1,61	1	7	9	
5.19_Div & open-mindedness	5,19	1,49	1	7	10	
5.05_Rep of nw with respect to sector	5,11	1,67	1	7	11	
5.15_Type food sect of members	5,02	1,64	2	7	12	
5.18_Breadth of focus/scope	4,99	1,64	1	7	13	
5.16_Pres/abs competit in nw	4,91	1,96	0,78	7	14	
5.07_Source nw funding	4,64	2,04	0	7	15	
5.22_Amount paid memb fee	4,60	1,96	0	7	16	
5.12_Way nw paid by members	4,53	1,91	0	7	17	
5.21_Time frame of nw obs	4,49	1,73	0,78	7	18	5.22 (9)
5.13_Access of nw	4,46	1,75	0	7	19	
5.17_Geo prox nw facil	4,12	2,10	0	7	20	
5.02_Geo coverage	3,91	1,90	0	7	21	
5.03_Deg Central	3,75	1,88	0	7	22	

Table 3 - Results by country

Belgium attribute	average	Italy attribute	average	Ireland attribute	average	Sweden attribute	average	Hungary attribute	average	France attribute	average
5.11_Clearness of goals	6,33	5.11_Clearness of goals	6,43	5.08_Degree int info openness	6,67	5.01_type members	6,33	5.08_Degree int info openness	6,33	5.08_Degree int info openness	6,33
5.20_Rel nw goal for firm	6,33	5.06_Links other nw or instit	6,00	5.09_Deg commit members	6,67	5.10_Pres common val will to collab	5,67	5.20_Rel nw goal for firm	6,00	5.11_Clearness of goals	6,33
5.04_Variety ind sectors	6,17	5.04_Variety ind sectors	5,86	5.01_type members	6,50	5.14_Main serv prov by nw	5,67	5.14_Main serv prov by nw	5,89	5.20_Rel nw goal for firm	6,22
5.16_Pres/abs competit in nw	6,17	5.05_Rep of nw with respect to sector	5,86	5.10_Pres common val will to collab	6,17	5.19_Div & open-mindedness	5,67	5.01_type members	5,56	5.05_Rep of nw with respect to sector	6,11
5.08_Degree int info openness	6,00	5.08_Degree int info openness	5,86	5.11_Clearness of goals	6,17	5.06_Links other nw or instit	5,33	5.06_Links other nw or instit	5,56	5.14_Main serv prov by nw	6,09
5.09_Deg commit members	5,83	5.10_Pres common val will to collab	5,86	5.19_Div & open-mindedness	6,00	5.08_Degree int info openness	5,33	5.10_Pres common val will to collab	5,44	5.09_Deg commit members	5,67
5.10_Pres common val will to collab	5,83	5.19_Div & open-mindedness	5,86	5.15_Type food sect of members	5,83	5.09_Deg commit members	5,33	5.16_Pres/abs competit in nw	5,38	5.01_type members	5,67
5.14_Main serv prov by nw	5,67	5.14_Main serv prov by nw	5,71	5.16_Pres/abs competit in nw	5,50	5.16_Pres/abs competit in nw	5,33	5.05_Rep of nw with respect to sector	5,22	5.18_Breadth of focus/scope	5,67
5.06_Links other nw or instit	5,50	5.07_Source nw funding	5,57	5.14_Main serv prov by nw	5,33	5.22_Amount paid memb fee	5,33	5.11_Clearness of goals	5,22	5.15_Type food sect of members	5,31
5.13_Access of nw	5,50	5.09_Deg commit members	5,43	5.18_Breadth of focus/scope	5,33	5.02_Geo coverage	5,00	5.15_Type food sect of members	5,14	5.04_Variety ind sectors	5,11
5.01_type members	5,33	5.22_Amount paid memb fee	5,43	5.20_Rel nw goal for firm	5,33	5.13_Access of nw	5,00	5.07_Source nw funding	5,11	5.06_Links other nw or instit	5,11
5.05_Rep of nw with respect to sector	5,33	5.15_Type food sect of members	5,00	5.04_Variety ind sectors	5,17	5.17_Geo prox nw facil	5,00	5.04_Variety ind sectors	5,00	5.17_Geo prox nw facil	4,89
5.12_Way nw paid by members	5,33	5.21_Time frame of nw obs	5,00	5.05_Rep of nw with respect to sector	4,17	5.04_Variety ind sectors	4,67	5.13_Access of nw	5,00	5.19_Div & open-mindedness	4,89
5.18_Breadth of focus/scope	5,33	5.13_Access of nw	4,86	5.06_Links other nw or instit	4,00	5.21_Time frame of nw obs	4,33	5.17_Geo prox nw facil	5,00	5.10_Pres common val will to collab	4,78
5.19_Div & open-mindedness	5,33	5.20_Rel nw goal for firm	4,86	5.03_Deg Central	3,50	5.05_Rep of nw with respect to sector	4,00	5.19_Div & open-mindedness	4,78	5.07_Source nw funding	4,67
5.21_Time frame of nw obs	5,33	5.12_Way nw paid by members	4,83	5.21_Time frame of nw obs	3,50	5.07_Source nw funding	4,00	5.18_Breadth of focus/scope	4,67	5.12_Way nw paid by members	4,44
5.03_Deg Central	5,17	5.01_type members	4,71	5.22_Amount paid memb fee	3,50	5.11_Clearness of goals	4,00	5.21_Time frame of nw obs	4,67	5.21_Time frame of nw obs	4,22
5.07_Source nw funding	5,17	5.03_Deg Central	4,71	5.02_Geo coverage	3,33	5.18_Breadth of focus/scope	4,00	5.22_Amount paid memb fee	4,67	5.02_Geo coverage	4,00
5.15_Type food sect of members	5,00	5.18_Breadth of focus/scope	4,57	5.07_Source nw funding	3,33	5.15_Type food sect of members	3,67	5.12_Way nw paid by members	4,44	5.13_Access of nw	3,56
5.22_Amount paid memb fee	4,67	5.02_Geo coverage	4,00	5.12_Way nw paid by members	3,33	5.20_Rel nw goal for firm	3,67	5.03_Deg Central	4,22	5.22_Amount paid memb fee	3,37
5.02_Geo coverage	4,50	5.16_Pres/abs competit in nw	4,00	5.13_Access of nw	2,83	5.12_Way nw paid by members	3,00	5.09_Deg commit members	4,22	5.16_Pres/abs competit in nw	3,33
5.17_Geo prox nw facil	4,33	5.17_Geo prox nw facil	3,86	5.17_Geo prox nw facil	2,83	5.03_Deg Central	2,67	5.02_Geo coverage	4,11	5.03_Deg Central	1,44

Further, table 4 reports the results of a cluster analysis of the respondents in such a way as to attempt to identify some noteworthy tendencies in the answer profile.
The cluster was performed through a k-Means with iterative choice of the number of clusters and Euclidean means as the distance matrix, using SPSS software.

Table 4 -Custer analysis on experts' responses from first round (k-means cluster of5 groups).

	Cluster				
	a	b	c	d	e
5.01_type_members	5,7	5,4	5,6	5,6	1,0
5.02_Geo coverage	5,0	2,0	3,9	4,3	1,0
5.03_Deg Central	3,3	1,7	4,6	3,1	6,0
5.04_Variety ind sectors	2,7	5,0	6,2	4,2	7,0
5.05_Rep of nw with respect to sector	4,7	4,5	5,8	4,1	6,0
5.06_Links other nw or instit	7,0	3,4	5,3	5,5	7,0
5.07_Source nw funding	5,7	1,2	5,2	4,3	7,0
5.08_Degree int info openness	7,0	6,8	6,1	5,6	7,0
5.09_Deg commit members	5,3	6,1	5,8	3,3	4,0
5.10_Pres common val will to collab	5,0	6,6	5,7	3,9	7,0
5.11_Clearness of goals	5,0	6,5	6,3	4,7	7,0
5.12_Way nw paid by members	3,3	2,4	5,4	4,3	5,0
5.13_Access of nw	4,7	1,2	5,4	4,3	5,0
5.14_Main serv prov by nw	6,7	4,5	6,1	5,4	7,0
5.15_Type food sect of members	6,3	5,5	5,1	4,1	7,0
5.16_Pres/abs competit in nw	6,3	5,1	5,6	3,7	1,0
5.17_Geo prox nw facil	5,7	2,3	5,2	3,2	1,0
5.18_Breadth of focus/scope	4,6	4,9	5,7	3,9	1,0
5.19_Div & open-mindedness	4,1	5,2	5,6	4,4	6,0
5.20_Rel nw goal for firm	6,0	5,8	6,0	4,4	1,0
5.21_Time frame of nw obs	6,3	2,4	5,4	3,7	7,0
5.22_Amount paid memb fee	3,3	1,0	5,4	4,7	7,0
numero	3,0	5,0	19,0	10,0	1,0
average	5,2	4,1	5,5	4,3	4,9
min	2,7	1,0	3,9	3,1	1,0
max	7,0	6,8	6,3	5,6	7,0

The colour highlights the most important attributes, with a darker grey for the most important ones in terms of ranking within each cluster. The same ranking reflects in the same colour.

Cluster e) separates an individual respondent with very peculiar answers; clusters a, b, c and d rather identify different patterns of responses. We discarded cluster e) and proposed the alternatives given by clusters a) to d) to the Delphi participants for the second round, allowing each participant to express his/her preference for one of the profiles. This addresses both to the possibility of revising the expressed preferences and the philosophy of the Delphi which involves bringing participants towards a consensus or towards a small number of consistent alternative views.

Groups' characteristics can be described as follows.

Cluster a) gives the maximum importance to 5.06_ Linkages of the network/its members to other networks or institutions and 5.08_Degree of internal information openness, followed by 5.14_Main services provided by the network. 5.15_Type of food sector of the members, 5.16_Presence/absence of competitors in the network and 5.21_Time frame of the network's objectives. Only 3 respondents fall in this group. The range of scores is rather wide, and the score used are relatively high (2.7 to 7).

Cluster b) gives the maximum importance to 5.08_Degree of internal information openness, followed by 5.10_Presence of common values and willingness to collaborate, 5.11_Clearness of goals, 5.09_Degree of commitment by members and 5.20_Amount paid as membership fee. Only 5 respondents fall into this group. The range of scores is very wide (1 to 6.8).

Cluster c) gives the maximum score to 5.11_Clearness of goals, followed by 5.04_Food sector focus, 5.08_Degree of internal information openness, 5.14_Main services provided by the network and 5.20_Relevance of network's goal for the firm. This is the largest group, with 19 respondents out of 38 (50%). The range of scores is much narrower than in the previous cluster and starts from high values (ranges between 3.9 and 6.3).

Cluster d) gives the maximum score to both 5.01_Type of members and 5.08_Degree of internal information openness, followed by 5.06_ Linkages of the network/its members to other networks or institutions and 5.14_Main services provided by the network, 5.11_Clearness of goals and 5.22_Amount paid as membership fee, and finally 5.19_Diversity and open-mindedness and 5.20_Relevance of network's goal for the firm. This is the second largest group, with 10 respondents out of 38 (about 25%). The scores tend to be in a very narrow range and are lower compared to the other groups (from 3.1 to 5.6).

The clusters have some connections with the country of origin of the expert, but do not exclusively reflect country groups (table 5).

Table 5 – Relationship between clusters and country of respondents*

	Cluster a	Cluster b	Cluster c	Cluster d	Cluster e	Total
Belgium	0	0	7	1	0	8
France	1	2	1	2	0	6
Hungary	2	0	4	4	0	10
Ireland	0	3	2	0	0	5
Italy	0	0	4	1	1	6
Sweden	0	0	1	2	0	3
Total	3	5	19	10	1	38

* Only 38 cases out of 43 where classified as the remaining did not have the score available for all of the attributes.

3.3. Results of the second round

Most of the respondents to the second round basically confirmed all the scores already assigned in the first round. Only three respondents made substantial changes to individual attributes score, but again only to one or a few attributes. The average score of the second-round respondents in the first and second round is reported in table 6.

Table 6 - average score by respondents participating in the both rounds, n=21

	Previous average score	New average score	Difference
5.08_Degree int info openness	6,12	6,07	-0,04
5.11_Clearness of goals	5,57	5,70	0,13
5.14_Main serv prov by nw	5,70	5,72	0,03
5.01_type members	5,71	5,51	-0,20
5.20_Rel nw goal for firm	5,82	5,72	-0,10
5.10_Pres common val will to collab	5,50	5,79	0,29
5.04_Variety ind sectors	5,19	5,14	-0,05
5.09_Deg commit members	5,50	5,30	-0,20
5.06_Links other nw or instit	5,31	5,17	-0,14
5.19_Div & open-mindedness	5,36	5,04	-0,32
5.05_Rep of nw with respect to sector	4,93	4,88	-0,05
5.15_Type food sect of members	4,94	4,47	-0,47

As only about half of the group of experts responded to the second round (21 of 43), the first round averages of those responding to the second round do not yield the same result as the average of the whole sample (compare table 2 and table 6)..In fact, checking for differences between table 6 and table 2, the scores and the ranking of the first twelve attributes in the subsample and in the whole sample are very similar. However some slight differences occur particularly in the resulting ranking of attributes 11, 14, 01, 20. For this reason we focus on the relative changes for the respondents having participated in both round, rather than re-calculating an average score based on round 2 responses. In addition the scores given, together with the related justification can provide insights about the actual robustness of the scoring coming from the first round and provide a hint about the relative adjustment occurred in the second round. Starting from the top scoring attribute we note the following:

The score of attribute 08_Degree internal information openness is confirmed by all respondents, with a few exceptions leading to slight reduction of the average score; comments mostly state that information sharing is the real core objective of networking, and networking for innovation in particular, so this is an inherently key attribute for any network with such a mandate.

Attribute 11_Clearness of goals appears reinforced, with 3respondents out of 14 increasing their score and 2decreasing it by 1 point; the comments point out that clearness of objectives is a key feature of a functioning networking activity and also particularly important for innovation.

Attribute 14_Main services provided by the network have most of the results confirmed, with only 1 respondent actually decreasing the importance given to this attribute. One of the respondents give a score of 7 and states to be surprised that the score of this attribute is so low as firms are usually pragmatic and would pay a lot of attention to the services that are provided; on the other hand, other respondents note that the quality of the services is more

important than the services themselves and that the services are anyway connected to the type of network and the type of innovation addressed.

Attribute 01_Type of members has a more clear reduction, which is due, however, to a sharp reduction by 3 points given by one of the experts interviewed (no motivation given, however); most of the other respondents highlight the importance of members as the building blocks of a network to guarantee exchanges and the importance of good representative members for the success of a network.

Attribute 20_Relevance of network goal for the firm also has a slight decrease in score; its relevance is supported by the vision of the firm as a pragmatic entity, wishing to find responses to its objectives.

Attribute 5.10_Presence of common values and willingness to collaborate is the only top 6 attribute with a relevant increase in scoring (together with attribute 11), and the attribute with the highest increase in the group of twelve, again mainly due to one respondent.

All the following attributes have the score reduced compared to the first round, though with contrasted changes by different experts and a couple of outliers producing a change up to 4 points.

Altogether the results confirm the primary role of Attribute 08_Degree internal information openness, and reinforce the prominent role of the following five attributes. The experts seem, however, to have continued to consider the attributes in isolation, particularly without paying much attention to overlapping between attributes highlighted in the first round, in spite of the fact that such overlappings and connections where pointed out in the feedback material and the experts asked to take them into account.

In terms of preferred "preference profile" (cluster) most of respondents choose cluster b with 6 votes, followed by cluster c with 5votes; in fact this largely reflects the cluster preference already expressed in the first round; however at least half of those choosing option b had actually been classified in c in the cluster. This shows a general higher importance of b compared with what appeared in the first round.

Only about half of the respondents state that their opinion about the preferred cluster is driven by the particular conditions of food SMEs in their country, or their knowledge of a specific sector or type of innovation. However, all of those responding "no" are concentrated in Hungary. A tentative interpretation of the very few answers which seek to explain motivations seems to indicate that those respondents choosing "b" are more driven by involvement in innovation-oriented networks, while respondents choosing "c" are more driven by involvement in sector-oriented networks, which also have an innovation focus.

4. Discussion and conclusions

In this paper we illustrate the results of an expert-based analysis of the importance of network attributes for firms networking, learning and innovation carried out through an application of the Delphi method.

43 experts were involved from 6 EU countries, and the Delphi was carried out in two rounds between September 2011 and February 2012.

The interaction with the experts over the course of the Delphi process has led to a score-based classification of attributes in terms of relevance. The first of them (Attribute 08_Degree internal information openness) proved to be particularly stable in the two rounds and better performing than the others, while the difference between the remaining

attributes are less clear-cut. However, the group of the following 5 attributes (11_Clearness of goals, 14_Main services provided by the network, 01_Type of members, 20_Relevance of network goal for the firm and 10_Presence of common values and willingness to collaborate) seem to be altogether more important compared to the further ones.

The exercise also revealed the existence of some "opinion profiles" that represent different perceptions of networking by different countries, sub-sectors or experience with different network types.

In addition to this, the exercise brought several insights that will be likely useful for W4 and WP5-6.

First of all, the terminology used and the content of each attribute are not always seen as straightforward by the respondents. The wording itself was sometimes perceived as "abstract" by the respondents.

Secondly, several attributes show overlapping in meaning, and a final choice should take appropriately into account this issue depending on the use of attributes (e.g. in the conjoint exercise).

The different view of experts groups are likely more important than the average itself, as the variety of situations and perception connected to food industry is very high compared to the number of interviewed experts.

On the contrary, the exercise did not contribute significantly to the definition of levels, due to the difficulty in dealing with this complex issue by e-mail.

The identification of levels and the final selection of attributes are therefore still open and will be performed in the final part of WP3 of the NETGROW project.

5. References

Cuhls K. (2005), Delphi survey. UNIDO Foresight seminars.

Dalkey N. C., Helmer O. (1963): An Experimental Application Of The Delphi Method To The Use Of Experts, Journal of the Institute of Management Sciences, 9, 458-467.

Harmon A.H., Maretzki A.N. (2006): Assessing Food System Attitudes Among Youth: Development and Evaluation of Attitude Measures, Journal of Nutrition Education and Behavior, 38 (2), 91-95.

King Baudouin Foundation and the Flemish Institute for Science and Technology Assessment (viWTA) (2005): PARTICIPATORY METHODS TOOLKIT. A practitioner's manual.King Baudouin Foundation.

Okoli C. and Pawlowski S.D. (2004): The Delphi method as a research tool: an example, design considerations and applications, Information & Management,42, 15–29

Schmidt R. C. (1997): Managing Delphi Surveys Using Nonparametric Statistical Techniques, Decision science, 28(3), 763-774.

Wentholt M.T.A., Rowe G., König A., and Marvin H.J.P., Frewer L.J. (2009): The views of key stakeholders on an evolving food risk governance framework: Results from a Delphi study, Food Policy,34, 539–548.

6. Annex I – Results of round 1 for question 1: "What is the importance of the attribute for a SME when deciding to join a generic network?"

attribute	av.	st.dev.	min	max
3.11_Clearness of goals	5,56	1,38	3,00	7
3.08_Degree int info openness	5,53	1,55	1,56	7
3.14_Main serv prov by nw	5,51	1,27	3,00	7
3.10_Pres common val will to collab	5,51	1,34	2,00	7
3.20_Rel nw goal for firm	5,33	1,47	1,00	7
3.01_type members	5,29	1,50	1,00	7
3.22_Amount paid memb fee	5,09	1,59	1,00	7
3.09_Deg commit members	4,99	1,56	1,56	7
3.13_Access of nw	4,81	1,60	1,56	7
3.06_Links other nw or instit	4,79	1,63	1,00	7
3.07_Source nw funding	4,77	1,82	1,56	7
3.17_Geo prox nw facil	4,65	1,73	1,00	7
3.12_Way nw paid by members	4,65	1,64	-	7
3.04_Variety ind sectors	4,56	1,58	1,00	7
3.02_Geo coverage	4,47	1,72	1,00	7
3.18_Breadth of focus/scope	4,45	1,60	1,00	7
3.19_Div & open-mindedness	4,41	1,48	1,56	7
3.16_Pres/abs competit in nw	4,35	1,84	0,78	7
3.05_Rep of nw with respect to sector	4,30	1,48	1,56	7
3.15_Type food sect of members	4,26	1,54	2,00	7
3.21_Time frame of nw obs	3,61	1,68	-	7
3.03_Deg Central	3,44	1,67	-	7

Scale: 0 (unimportant) to 7 (extremely important)

7. Annex II – Results of round 1 for question 2 "What is the importance of the attribute for a SME when deciding to join an innovation network?"

attribute	av.	st.dev.	min	max
4.08_Degree int info openness	5,98	1,26	1,56	7
4.11_Clearness of goals	5,89	1,21	3,00	7
4.01_type members	5,88	1,36	1,00	7
4.10_Pres common val will to collab	5,83	1,20	2,00	7
4.20_Rel nw goal for firm	5,77	1,38	1,00	7
4.14_Main serv prov by nw	5,75	1,26	2,33	7
4.09_Deg commit members	5,53	1,24	3,00	7
4.04_Variety ind sectors	5,44	1,42	2,00	7
4.06_Links other nw or instit	5,42	1,62	1,00	7
4.07_Source nw funding	5,20	1,70	1,56	7
4.15_Type food sect of members	5,10	1,60	2,00	7
4.12_Way nw paid by members	4,95	1,68	-	7
4.16_Pres/abs competit in nw	4,91	1,74	0,78	7
4.22_Amount paid memb fee	4,75	1,61	1,00	7
4.19_Div & open-mindedness	4,74	1,72	-	7
4.05_Rep of nw with respect to sector	4,68	1,60	1,00	7
4.13_Access of nw	4,57	1,57	1,56	7
4.21_Time frame of nw obs	4,54	1,49	1,56	7
4.18_Breadth of focus/scope	4,48	1,74	0,78	7
4.17_Geo prox nw facil	4,16	1,79	-	7
4.02_Geo coverage	4,06	1,71	-	7
4.03_Deg Central	4,00	1,96	-	7

Scale: 0 (unimportant) to 7 (extremely important)

8.   Annex III – Invitation letter (to be adapted by country leaders if needed)
NetGrow - Enhancing the innovativeness of food SMEs through the management of strategic network behaviour and network learning performance

Subject: *Invitation to participate in the 'Delphi Round' of the NetGrow Project (Work Package 3)*

Dear X,

I am writing on behalf of the institutions participating in the project **NetGrow**[*], a project funded by the European Commission within the Seventh Framework Programme (2007-2013).

Your name was provided by **X**, from **X**.

The NetGrow project seeks to enhance the innovativeness of food SMEs throughout Europe through an improved management of strategic network behaviour and network learning. NetGrow brings together the capacities of project partners from 9 different countries and invites the active participation of food SMEs from across Europe. See the project website for more information: http://netgrow.eu/

During the current phase of the project we are inviting experts from across Europe to participate in what is known as a '**Delphi'**, organised by the University of Bologna (Italy).

The Delphi is a well-known method among participatory approaches, and is based on an iterative interview of a number of experts. Questionnaires are submitted in repeated 'rounds' up until there is a convergence of responses from the experts.

The purpose of the Delphi is to identify the most relevant network characteristics with respect to innovation (from the perspective of food SMES).

You are being invited to contribute to the NetGrow project's Delphi rounds in your capacity as an external expert with special knowledge of networks. At least two (2) questionnaires will be sent to you over a period of 2 months. After the first round, the results are analysed and a new questionnaire is prepared for the next round, highlighting convergences and divergences of opinion. The specificity of the method is that experts work in isolation, avoiding distortions from group leaders and interactions with partners.

Your involvement in this phase of the project would be greatly appreciated. Please respond to this message as soon as possible confirming your willingness to participate.

Best regards,

DavideViaggi
Associate Professor

Department of Agricultural Economics and Engineering, University of Bologna VialeFanin, 50 - 40127 BOLOGNA (ITALY) tel. +390512096114, fax +390512096105

Annex III – Introductory letter to Questionnaire 1 (to be adapted by country leaders if needed) – to be delivered together with the questionnaire in Annex III as appropriate

NetGrow - Enhancing the innovativeness of food SMEs through the management of strategic network behaviour and network learning performance

<u>**Subject**</u>: *Questionnaire : 'Delphi Round'- NetGrow Project*

Dear X,

I would like to thank you for accepting to participate in the Delphi Round of the NetGrow project. Your involvement and input are greatly appreciated by the project partners, and are essential to the project's success.

The Delphi is a well-known method among participatory approaches, and is based on an iterative interview of a number of experts. Questionnaires are submitted in repeated 'rounds' up until there is a convergence among the experts. The purpose of the Delphi is to identify the most relevant network characteristics with respect to innovation (from the perspective of food SMEs).

You will receive **two (2) questionnaires** over a period of 2 months, and possibly an additional one depending on the perceived needs after the second round.

The first round of the Delphi is **Questionnaire 1** (see below). In this questionnaire you will find a list of network characteristics and definitions developed during previous brainstorming sessions held in 6 NetGrow partner countries. We kindly ask you to answer the questions without the assistance of others.

If required, you may contact us by telephone to discuss any questions you may have regarding the questionnaire, using the number below or by contacting the national contact person.

**Once you have completed the questionnaire, please e-mail it <u>as soon as possible</u> to David Cuming: mailto: david.cuming@unibo.it

Once the results of Questionnaire 1 have been returned the list of characteristics/levels will be ordered and refined. This finalised list will then be sent back to you for a second round during which you will be asked to give your opinion on the ranking and to refine the content attached to the most important network characteristics. You will receive an e-mail from me at a later date explaining round 2.

If you have any questions or comments, please do not hesitate to contact me.

Best regards,
DavideViaggi, Associate Professor
Department of Agricultural Economics and Engineering, University of Bologna VialeFanin, 50 - 40127 BOLOGNA (ITALY) tel. +390512096114, fax +390512096105

9. Annex IV – Questionnaire (1st round)

NetGrow - Enhancing the innovativeness of food SMEs through the management of strategic network behaviour and network learning performance

Before filling in the questionnaire, please have a look at the following key concepts:

A network is defined as a set of actors connected by a set of durable formal and informal ties. The <u>actors</u> are firms (competitors, suppliers, customers, auxiliary businesses etc.), knowledge centres (universities and research centres etc.) and other actors (network organizations, governments, special-interest groups, industry organizations etc.). The <u>ties</u> are relationships between the actors. Ties may be formal (contractual etc.) or informal (social, trust-based etc.).

Innovation
- Newly *implemented* combinations of existing resources
- New or significantly improved:
    - *Products*
    - *Methods of production*
    - *Sources of supply*
    - *Ways to organize business*
    - Exploitation of new *markets* or new ways to reach existing markets*.*

Network learning
- Learning ≈ knowledge transfer
- Instrumental for innovation (open innovation)
- Network learning is the ability of an organization to combine knowledge resources by means of formal and informal interaction with other network partners (in a dynamic process) in order to achieve a desired end.

Detailed instructions for filling in the questionnaire

This questionnaire is basically made up of a table. In the table you will find a list of network characteristics (column 1). Each network characteristic is associated with a short (non-technical) definition (column 2).

The following three columns allow you to give a score to the characteristic as it applies to three different perspectives:

3. What is the importance of the network characteristic for a SME **when deciding to join a generic network**?

4. What is the importance of the network characteristic for a SME **when deciding to join an innovation network**?

5. What is the importance of this network characteristic for a SME **to learn from the network and to innovate**?

Each is asked separately because in the previous stage of the research it was found that the same network characteristic may have different relevance for each of these different perspectives. However, it does not necessarily mean that they are different in your opinion. Please consider the difference carefully and give us your view.

Please express your opinion by giving a score to each characteristic against each criterion. The score should be between 0 (unimportant) and 7 (extremely important).

In column 6 you will be asked if, in your opinion, a given network characteristic overlaps or has the same meaning as other network characteristics in the list and to specify which ones. The purpose of this is to check for redundancies. This is a qualitative answer (no score required).

Finally, you may add any comments you have related to each characteristic at the end of each line (column 7) or concerning the whole exercise (below the table). If possible, please indicate in your comments the types of innovation for which each attribute is most relevant.

Before starting, please provide the following information in order to help us keep track of the origin of the questionnaire. This information will be treated as confidential.

Name: _____

Affiliation: _____

Type of institution: a) SME; b) research/education institution; c) public administration; d) other (specify)

_____

Country:_____

Participated in the previous brainstorming activities of the NETGROW project (Yes/No):_____

Main sub-sector within the food industry: _____

	Network characteristic	2. Definition	What is the importance of the network characteristic for a SME **when deciding to join a generic network?** - score between 0 (unimportant) and 7 (extremely important)	What is the importance of the network characteristic for a SME **when deciding to join an innovation network?** - score between 0 (unimportant) and 7 (extremely important)	What is the importance of this network characteristic **for a SME to learn from the network and to innovate?** - score between 0 (unimportant) and 7 (extremely important)	.Do you find that this network characteristic overlaps or has the same meaning as other network characteristics in the list? Which ones (type the number)? -	Other remarks (e.g. types of innovation for which the network characteristic is most relevant)
1	Type of members	omposition of the network in terms of the type of members (e.g. other firms, advisors, etc.)					
2	Geographic coverage	ographic level and breadth of the network					
3	egree of centralisation	Degree of centralisation of decision making (and specialisation of one entity in the role of coordinator)					
4	riety of industry sectors	pecificity of network's focus with respect to the food sector					
5	presentativeness of the network with respect to the sector	egree to which the network covers the full sector					
6	kages to other networks or institutions	Linkages of the network/its members to other networks or institutions					
7	rce of network's funding	hare of network's funding coming from different sources (such as public compared to private funding)					
8	Degree of internal information openness	gree to which information is shared openly with members within the network					
9	gree of commitment by members	Degree of commitment by members of the network towards the network and other members					

10	sence of common values and willingness to collaborate	ree to which the members of the network share common values and a willingness to collaborate					
11	Clearness of goals	ree to which the goals of the network are clearly defined					
12	y the network is paid by its members	ree to which the payment is made as a fixed entrance fee or a payment for specific services					
13	essibility of the network	ree of ease with which new members can join the network/members can leave					
14	ain services provided by the network	Type of preferred services provided by the network					
15	pe of food sector of the members	Desired composition of the network in terms of the homogeneity/heterogeneity of food sectors in which the members work					
16	Presence/absence of competitors in the network	Desired composition of the network in terms of the presence/absence of competitors of the company among the members of the network					
17	eographic proximity of network facilities	ographic closeness of network facilities to the company					
18	readth of focus/scope	Breadth of issues/subjects addressed by the network (wider scope implies more variety of themes, activities, etc. addressed by the network)					
19	Diversity and open-mindedness	ree to which the members of the network show/value diversity and open mindedness					
20	evance of network's goal for the firm	gree to which the network's goal is relevant for the firm					
21	e frame of the network's objectives	Degree to which network's objectives are long-term vs. Short-term					
22	ount paid as membership	nount paid as a membership					

	fee	fee to access the network					

Additional remarks:

_____
_____
_____
_____
_____
_____

10. Annex V – Questionnaire (2nd round)

NetGrow - Enhancing the innovativeness of food SMEs through the management of strategic network behaviour and network learning performance

Subject: *Questionnaire 2: 'Delphi Round'- NetGrow Project*

Dear colleague,

I would like to thank you for your recent participation in the Delphi Round of the NetGrow project.

Below you will find the second (and final questionnaire). Your continued participation is greatly appreciated by the project partners, and is essential to the project's success.

The results from the first questionnaire have been elaborated with the calculation of average and distribution of scores given in selected questions and with an eye to identifying the main "opinion profiles" in the group. In the questionnaire below we ask that you review and possibly consider adapting your previous scores and provide your opinion on which of the derived profiles judge to be closer to your own.

The Delphi is a well-known method among participatory and qualitative approaches, and is based on an iterative interview of a number of experts. Questionnaires are submitted in repeated 'rounds' up until there is a convergence among the experts around or a few consistent opinion. The purpose of the Delphi is to identify the most relevant network characteristics with respect to innovation (from the perspective of SMEs).

If required, you may contact us by telephone to discuss any questions you may have regarding the questionnaire, using the telephone number below or by contacting your national contact person.

**Once you have completed the questionnaire, please e-mail it as soon as possible, and anyway before February 23 to DavideViaggi: davide.viaggi@unibo.it **

The level of participation has been good so far, however we need to maintain a sufficient level of input in the second questionnaire to ensure the success of this part of the project. We thank you in advance for your continued support.

Best regards,

DavideViaggi, Associate Professor

Department of Agricultural Economics and Engineering, University of Bologna VialeFanin, 50 - 40127 BOLOGNA (ITALY) tel. +390512096114, fax +390512096105

NetGrow - Enhancing the innovativeness of food SMEs through the management of strategic network behaviour and network learning performance

As a reminder, <u>before filling in the questionnaire</u>, please have a look at the following key concepts:

A network is defined as a set of actors connected by a set of durable formal and informal ties. The <u>actors</u> are firms (competitors, suppliers, customers, auxiliary businesses etc.), knowledge centres (universities and research centres etc.) and other actors (network organizations, governments, special-interest groups, industry organizations etc.). The <u>ties</u> are relationships between the actors. Ties may be formal (contractual etc.) or informal (social, trust-based etc.).

Innovation
- Newly *implemented* combinations of existing resources.
- New or significantly improved:
  - *Products*
  - *Methods of production*
  - *Sources of supply*
  - *Ways to organize business*
  - Exploitation of new *markets* or new ways to reach existing markets*.*

Network learning
- Learning ≈ knowledge transfer
- Instrumental for innovation (open innovation)
- Network learning is the ability of an organization to combine knowledge resources by means of formal and informal interaction with other network partners (in a dynamic process) in order to achieve a desired end.

Questionnaire 2

Detailed instructions for filling in the questionnaire

In this questionnaire you will first find the key results from Questionnaire 1 in terms of scores per characteristic.

We focus on Question 5 of the first questionnaire to discuss the most noteworthy results with regard to those characteristics deemed to be the most important for learning and innovation.
Based on these results, we ask you to reconsider the score you gave in the first round and possibly introduce changes in the scoring of the first 12 attributes. We also ask you to justify this choice in order to better understand the motivations behind your score.

In a second step, we provide a description of the main "opinion profiles" in the group and ask your feed-back on this, also in order to understand if there are different combinations of characteristics that are more or less suitable for different food SMEs situations (questions 2, 3, 4 and 5).

Please note that you are free to change the views you expressed in the first questionnaire.

Before starting, please provide your name so that we can match your answers with those from the first round of responses. This information will be treated as confidential.

Name: _____

Main results from Questionnaire 1

We collected 43 questionnaires altogether, from 6 different countries.

In this second round we focus on Question 5 of the first round questionnaire: **5. What is the importance of this network characteristic <u>for an SME to learn from the network and to innovate</u>? -** Score between 0 (unimportant) and 7 (extremely important).

You find below the average scores given for this question in round 1, with standard deviations, minimum and maximum, and overlappings detected across characteristics. The characteristics are listed in order of decreasing average score.

N.	Characteristic	Average score	Standard deviation	Minimum	Maximum	Overlaps w. (# recorded overlaps)
8	Degree of internal information openness	6,19	0,97	3	7	5.10 (6), 5.9 (3), 5.19 (4)
11	Clearness of goals	5,84	1,16	3	7	5.1 (2), 5.3 (1), 5.6 (1), 5.9 (1), 5.14(1), 5.18(1) 5.20 (2), 5.21(1), 5.22 (2)
14	Main services provided by the network	5,78	1,32	1	7	5.12 (2), 5.13 (1), 5.18(1)
1	Type of members	5,55	1,56	1	7	5.2 (1), 5.3 (1), 5.4 (1), 5.5 (3), 5.6 (3), 5.9 (2), 5.11 (2), 5.13 (2), 5.15 (3), 5.16 (2), 5.17 (1), 5.18 (1), 5.19 (1), 5.20 (1)
20	Relevance of network's goal for the firm	5,51	1,61	1	7	5.1 (1), 5.3 (1), 5.4 (1), 5.5 (1), 5.6 (1), 5.11 (2), 5.13 (1), 5.15 (1), 5.18 (1)
10	Presence of common values and willingness to collaborate	5,45	1,41	2	7	5.7 (1), 5.8 (6), 5.9 (4), 5.19 (3)
4	Food sector focus	5,34	1,58	0	7	
9	Degree of commitment by members	5,25	1,58	1	7	
6	Linkages of the network/its members to other networks or institutions	5,21	1,61	1	7	
19	Diversity and open-mindedness	5,19	1,49	1	7	
5	Representativeness of the network with respect to the sector	5,11	1,67	1	7	
15	Type of food sector of the members	5,02	1,64	2	7	
18	Breadth of focus/scope	4,99	1,64	1	7	
16	Presence/absence of competitors in the network	4,91	1,96	0,78	7	
7	Degree of public funding compared to private finding	4,64	2,04	0	7	
22	Amount paid as membership fee	4,60	1,96	0	7	
12	Way the network is paid by its members	4,53	1,91	0	7	
21	Time frame of the network's objectives	4,49	1,73	0,78	7	5.22 (9)
13	Easiness to access the network	4,46	1,75	0	7	
17	Geographic proximity of network facilities	4,12	2,10	0	7	
2	Geographic coverage	3,91	1,90	0	7	
3	Degree of centralisation	3,75	1,88	0	7	

Questions

Q-1 –Based on this information, we ask you to reconsider the score you gave to the characteristics in the first round for the 12 best scoring attributes and let us have you refined scores, **by filling the last two columns of the table below**. We include again the definition of the characteristic, the average score and the score you gave in the first round for your convenience.

N.	Characteristic	Definition	Average score	Your score in round 1	Your revised score - Score between 0 (unimportant) and 7 (extremely important)	Please provide a justification for your final score and, if this applies, for your change.
8	Degree of internal information openness	Degree to which information circulates internally within the network	6,19			
11	Clearness of goals	Degree to which the goals of the network are clearly defined	5,84			
14	Main services provided by the network	Type of preferred services provided by the network	5,78			
1	Type of members	Desired composition of the network in terms of the type of members	5,55			
20	Relevance of network's goal for the firm	Degree to which the network's goal is relevant for the firm	5,51			
10	Presence of common values and willingness to collaborate	Degree to which the members of the network share common values and a willingness to collaborate	5,45			
4	Food sector focus	Specificity of network's focus with respect to the food sector	5,34			
9	Degree of commitment by members	Degree of commitment by members of the network towards the network and other members	5,25			
6	Linkages of the network/its members to other networks or institutions	Linkages of the network/its members to other networks or institutions	5,21			
19	Diversity and open-mindedness	Degree to which the members of the network show/value diversity and open mindedness	5,19			
5	Representativeness of the network with respect to the sector	Degree to which the network covers the full sector	5,11			
15	Type of food sector of the members	Desired composition of the network in terms of the homogeneity of food sectors in which the members work	5,02			

In addition, we have analysed the data in such a way as to identify potential consistent groups of responses, or "opinion profiles" (through cluster analysis)." The main groups identified are described in the table below, with reference to the average score for each characteristic and the number of respondents in the group[1].

The colour highlights the most important attributes, with a darker grey for the most important ones in terms of ranking. The same ranking reflects in the same colour.

N.	Characteristic	group a	group b	group c	group d
1	Type of members	5,7	5,4	5,6	5,6
2	Geographic coverage	5,0	2,0	3,9	4,3
3	Degree of centralisation	3,3	1,7	4,6	3,1
4	Food sector focus	2,7	5,0	6,2	4,2
5	Representativeness of the network with respect to the sector	4,7	4,5	5,8	4,1
6	Linkages of the network/its members to other networks or institutions	7,0	3,4	5,3	5,5
7	Degree of public funding compared to private finding	5,7	1,2	5,2	4,3
8	Degree of internal information openness	7,0	6,8	6,1	5,6
9	Degree of commitment by members	5,3	6,1	5,8	3,3
10	Presence of common values and willingness to collaborate	5,0	6,6	5,7	3,9
11	Clearness of goals	5,0	6,5	6,3	4,7
12	Way the network is paid by its members	3,3	2,4	5,4	4,3
13	Easiness to access the network	4,7	1,2	5,4	4,3
14	Main services provided by the network	6,7	4,5	6,1	5,4
15	Type of food sector of the members	6,3	5,5	5,1	4,1
16	Presence/absence of competitors in the network	6,3	5,1	5,6	3,7
17	Geographic proximity of network facilities	5,7	2,3	5,2	3,2
18	Breadth of focus/scope	4,6	4,9	5,7	3,9
19	Diversity and open-mindedness	4,1	5,2	5,6	4,4
20	Relevance of network's goal for the firm	6,0	5,8	6,0	4,4
21	Time frame of the network's objectives	6,3	2,4	5,4	3,7
22	Amount paid as membership fee	3,3	1,0	5,4	4,7
	Number of participants	3	5	19	10
	average score	5,2	4,1	5,5	4,3
	minimum score	2,7	1,0	3,9	3,1
	maximum score	7,0	6,8	6,3	5,6

Group a) gives the maximum importance to 5.06_ Linkages of the network/its members to other networks or institutions and 5.08_Degree of internal information openness, followed by 5.14_Main services provided by the network. 5.15_Type of food sector of the members, 5.16_Presence/absence of competitors in the network and 5.21_Time frame of the network's objectives. Only 3 respondents fall in this group. The range of scores is rather wide, and the score used are relatively high (2.7 to 7).

Group b) gives the maximum importance to 5.08_Degree of internal information openness, followed by 5.10_Presence of common values and willingness to collaborate, 5.11_Clearness of goals, 5.09_Degree of

---

commitment by members and 5.20_Amount paid as membership fee. Only 5 respondents fall into this group. The range of scores is very wide (1 to 6.8).

Group c) gives the maximum score to 5.11_Clearness of goals, followed by 5.04_Food sector focus, 5.08_Degree of internal information openness, 5.14_Main services provided by the network and 5.20_Relevance of network's goal for the firm. This is the largest group, with 19 respondents out of 38 (50%). The range of scores is much narrower than in the previous cluster and starts from high values (ranges between 3.9 and 6.3).

Group d) gives the maximum score to both 5.01_Type of members and 5.08_Degree of internal information openness, followed by 5.06_ Linkages of the network/its members to other networks or institutions and 5.14_Main services provided by the network, 5.11_Clearness of goals and 5.22_Amount paid as membership fee, and finally 5.19_Diversity and open-mindedness and 5.20_Relevance of network's goal for the firm. This is the second largest group, with 10 respondents out of 38 (about 25%). The scores tend to be in a very narrow range and are lower compared to the other groups (from 3.1 to 5.6).

Q2 – If you have to choose for one of the above groups, which one would better represent your view about the importance of different network characteristics **for an SME to learn from the network and to innovate?** (check the appropriate letter, one answer only allowed).

a)_____

b)_____

c)_____

d)_____

Q3 - Please provide a justification for your choice

_____
_____
_____
_____
_____

Q4 - Do you think your choice reflects the particular conditions of food SMEs in your country, or your knowledge of a specific sector or type of innovation?

Yes_____

No_____

Q5 - If yes, please provide an explanation/details

_____
_____
_____
_____
_____

Q6 – Any additional comments

_____
_____
_____
_____
_____
_____
_____