

# THE SEARCHING ENTREPRENEUR - A program evaluation of group interventions and individual interventions to develop networking competence of entrepreneurs in agriculture

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## 1. Introduction

The Netherlands is a small, densely populated, country with approximately 75,000 farms and horticultural firms, mainly family-owned. It is at the same time the second largest exporter of agricultural products in the world. Starting after World War II, a strong knowledge infrastructure providing farmers and horticultural growers with the newest technology and know-how, has resulted in a capital-intensive, highly-rationalized production on an efficient scale. However increased global competition, scarcity of land, and growing concerns of consumers and (other) citizens about food safety, animal welfare, nature and landscape, global warming and other environmental issues, are putting higher and higher demands on the level of entrepreneurial competence of farmers and horticultural growers. In order to survive competition and maintain a societal 'license to produce' these farmers and growers have to develop their business in a way that takes into account their own goals, the strengths and weaknesses of the existing operation and the opportunities and threats of both the market and the environment of the firm.

A serious problem is that many farmers and growers do not have the appropriate entrepreneurial competence to make the right choices for the development of their business. Because of high capital-intensity and relatively low profits, almost all farmers and growers have acquired their business by succession. This means that, unlike in other economic sectors, hardly any 'natural' firm entrance selection on entrepreneurial competence has taken place. Many farmers and growers indicate that they feel a 'sense of urgency' to develop their business but do not know which way to go. This stresses the importance of competence development for farmers and growers.

In an earlier study, comprehensive interviews with farmers who successfully developed their business in line with their professional goals were compared with farmers who also had a sense of urgency to develop their business but did not succeed in doing so. The most distinctive characteristic between both types of farmers was the *competence* of successful farmers to flexibly build networks of people who could provide them with relevant information and support for their business development. This observation led to the *objective* of this study to design and to evaluate intervention programs for developing networking competence of farmers and horticultural growers.

## 2. Methods and data collection

### 2.1 Conceptualization of networking competence of entrepreneurs

Before the intervention programs could be designed and evaluated, a suitable conceptualization of networking competence of entrepreneurs was needed. Some studies have

emphasized the importance of entrepreneurial networks (Jack, 2005; Ng et al., 2006) and other studies have investigated network competence on a company level (e.g., Ritter and Gemünden, 2003). Yet, no studies were found explicitly dealing with the conceptualization, assessment and development of networking competence of entrepreneurs. Man et al. (2002) conducted important work in the field of entrepreneurial competence by identifying six groups of competences: conceptual competence, opportunity competence, commitment competence, organizing competence, relational competence, and strategic competence. Lans et al. (2005) and Bergevoet and Van Woerkum (2006) have build upon the work of Man et al. by adding insights from educational sciences, customizing the approach to the agribusiness context, and developing a competence assessment tool. Oosterbeek et al. (2009) used a similar competence assessment tool to evaluate entrepreneurship courses in a school context.

In this study, networking competence is defined as someone's ability to involve the right people, at the right moment for the right purpose. Matched up to the entrepreneurial competence groups of Man et al. (2002) and Lans et al. (2005), networking competence can be defined by elements of strategic competence (identifying the right purpose, i.e., the direction in which the enterprise should develop), elements of relational competence (being able to get the right people involved), and elements of organizing competence (managing to involve the right people at the right moment). Therefore, the entrepreneurial competence assessment tool of Lans et al. (2005) and Bergevoet and Van Woerkum (2006), consisting of 58 items related to the six groups of competences, was considered to be adequate to monitor development in networking competence as well and was used in this study.

## *2.2 Two intervention programs*

An advertisement in a professional journal was used to recruit participants for our intervention study. Intakes were held to ensure that applicants actually had a 'sense of urgency' to develop their business but encountered problems finding a good way to move forward. Twenty-two farmers and horticultural growers were selected to participate in one of the two intervention programs: the individual program (n=9) or the group program (one group of 7 farmers and growers and one group of 6 farmers and growers).

At the start of this study, it was unclear whether an individual program, in which a strategic-management researcher intensively assists a farmer or grower would be an adequate approach to develop networking competence. Neither was it clear whether a group program where farmers and growers may motivate each other and learn from each other would be adequate. Therefore both programs were explored in this study, thereby keeping the nature of the intervention as equal as possible in both programs. This means that the content, i.e., theoretical backgrounds, networking exercises, homework assignments, and business plan development, was kept the same in both programs. The main difference between the programs was that the individual program offered a more secure setting for in-depth discussions with the researcher whereas the group program offered more opportunities to discuss and exchange ideas with peers.

To get a high level of commitment participants could choose in which intervention program they would like to participate. Both intervention programs were run for six months and included three bilateral conversations with a strategic-management researcher in the individual program. In the group program, four group meetings with the other group members and a strategic-management researcher were held.

Another six months after the intervention had ended, group meetings were organized to determine whether intervention effects lasted over a longer period of time. Two researchers, who were not involved in the intervention programs, formed a monitoring and evaluation team (M&E team). They made sure that after each bilateral conversation and

group meeting evaluation forms were completed, both by the participants and the strategic-management researchers, to find out whether participants were still motivated, what they thought about the homework assignments and whether they thought they had learned something. Right at the start of the intervention program all participants had to complete an extensive questionnaire, including general information about the business structure, the above-mentioned 58 competence items of Lans et al. 2005, 29 items on perceptions on external developments (Ondersteijn et al., 2006), 15 items on communication skills (Baron and Markman, 2003), and 38 items on personality (Fay, 1998, Schaufeli and Bakker, 2004). Six months after the intervention program had ended, the participants had to complete most of the questionnaire items once more to see whether entrepreneurial competence (among which networking competence), perceptions on developments of the external environment and skills had been changed. Also business developments that had occurred during the course of the program were recorded. The content of the evaluation forms was used to see whether the results of the questionnaires matched with the perceptions and observations in the course of the intervention programs. Overviews of the design and the type of data collected in the group program and in the individual program are presented in Annex 1 and Annex 2 respectively.

### *2.3 The nature of the intervention*

#### 2.3.1 Business plan development

The objective of the study was to design and to evaluate intervention programs for *developing networking competence* of farmers and horticultural growers. Therefore, networking exercises were included in the programs. However, executing a program that lasts almost an entire year requires more than just networking exercises to keep farmers and growers motivated. Therefore, it was decided to embed the networking exercises in an existing business plan development program (Smit, 2004; Van der Schans, 2007). The farmers and growers were selected on their sense of urgency to move forward with their business and, therefore, had to be interested in getting support for making plans for the future of their business. The business plan development program includes theory items on strategy, case examples of companies that followed a clear strategy (e.g. 'The Body Shop') and exercises to determine the strengths and weaknesses of the business and the opportunities and threats in the external environment. Together with introspection items such as 'who am I', 'what do I want' and 'what are my personal strengths and weakness', this business development program results in a strategic-management report for each individual participant and his or her business.

#### 2.3.2 Networking exercises

At the start of the intervention programs, general concepts about networks and the meaning of networking were provided to the participants. Many participants had the misconception that "knowing many people" is equal to "being an effective networker". Obviously, "knowing many people" is quite distinct from "being able to involve the right people, at the right moment for the right purpose". Following Cross et al. (2001), it was explained to the participants that the main purpose of networking is to ask others for relevant information, which can lead to benefits in five different forms (Table 1, Cross et al., 2001):

**Table 1 Potential benefits from networking**

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Solutions	People get information from other people that they use to generate solutions to problems. The most valued information that is received is explicit procedural knowledge. Obtaining answers to problems allows a solution to be orchestrated in an effective and timely manner
Meta-knowledge	An interaction that yields pointers to individuals with expertise, or the location of relevant documents. Sources in these interactions often serve a brokering function connecting a third party and the recipient. Meta-knowledge leads individuals to obtain useful information in a timely manner which increases their efficiency in responding to problems
Problem reformulation	A skillful source may be able to help the recipient define important dimensions of problem. Problem reformulation enables an individual to broaden his or her understanding of problem, which in turn enables them to give a more accurate solution
Validation	An interaction may be valuable in that it validates an individual's solution or plan. It may also bolster the individual's belief in his/her own thinking. Affirmation of an idea allows an individual to enter diverse social situation with confidence. This ensures that good solutions are not lost
Legitimation	The ability to cite a respected source as having reviewed a solution can increase credibility, and allow people to move forward in exploring an approach. The use of symbolism decreases the amount of discussion time around a decision point and therefore increases efficiency

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Beside the explanation of general concepts, three networking exercises were included in the intervention programs: the handshake exercise, the network diagram, and the homework assignment.

In the handshake exercise participants were asked to investigate with how many handshakes they can get into contact with people who seem to be out of reach, for instance, the minister of agriculture, the pope or the president of the United States. It showed that in almost every situation it took only three or four handshakes to make the connection and it made the participants aware that everyone can be approached if he or she has vital information for you.

In the network diagram exercise, participants had to draw a diagram visualizing the number and intensity contacts they had within their business context but also outside this context (e.g., in the local community, at the sports clubs). Next, participants had to reflect on the diagram realizing which people they could contact for what source of information.

In the homework assignment, participants had to go out and meet an entrepreneur outside of their own agricultural business context, and start a dialogue about how you run your business and how the other entrepreneur runs his or her business. This assignment was meant to make participants aware that discussing your business with someone out of your usual scope is nothing to be afraid of and often leads to refreshing insights. It appeared that many participants had cold feet fulfilling this assignment but were very enthusiastic afterwards and claimed that they would do it more often.

### 3. Results

#### 3.1 Competence development

The results in Table 2 demonstrate that the networking competence of farmers and horticultural growers have been developed. Items in the questionnaire that relate most strongly to networking competencies, such as being able to ‘search information frequently’, ‘find relevant information’, and ‘frequently test ideas with others’ were significantly improved through the interventions.

**Table 2 Difference in baseline scores and final scores on entrepreneurial competence items (observations of the group program and individual program combined)**

Being able to	part of:	N	baseline scores		final scores		(2-1)	P
			AVG (1)	SD	AVG (2)	SD		
Translate goals into plans	strategic	18	1.72	1.02	2.78	1.44	1.06	<b>0.01</b>
Find relevant information	strategic	18	3.67	0.91	4.17	0.91	0.50	<b>0.02</b>
Keep the business up-to-date	strategic	18	3.56	0.92	3.94	0.87	0.39	<b>0.05</b>
Take on challenges	strategic	18	3.11	1.28	3.69	0.89	0.58	<b>0.05</b>
Search information frequently	strategic	18	3.72	1.07	4.17	0.86	0.44	0.09
Know the future firm position	strategic	18	2.72	1.27	3.33	1.03	0.61	0.12
Present ideas	relationship	17	3.35	1.06	3.85	1.09	0.50	<b>0.02</b>
Take initiative	relationship	18	2.50	1.20	3.14	0.97	0.64	0.06
Have a communication plan	relationship	12	1.25	0.62	1.92	0.90	0.67	0.07
Be goal-oriented and determined	relationship	18	3.67	0.49	4.00	0.59	0.33	0.08
Separate minor and major issues	conceptual	16	3.50	1.03	4.06	0.93	0.56	<b>0.03</b>
Be proactive instead of responsive	conceptual	18	3.89	0.83	3.50	0.71	-0.39	0.09
Recognize problems at workers	conceptual	13	3.85	0.69	4.27	0.83	0.42	0.14
Frequently test ideas with others	commitment	18	3.44	0.92	4.11	0.83	0.67	<b>0.00</b>
Indicate strengths and weaknesses	commitment	18	3.44	1.29	4.17	0.92	0.72	<b>0.02</b>
Act on opportunities abroad	opportunity	11	2.55	0.69	2.91	0.94	0.36	0.10

*N = number of pairwise comparisons; only items that were completed in both questionnaires could be included in the analyses. Min. score per item = 1; max. score=5; AVG. = average of N observations; SD = standard deviation with N observations. P= Significance of the difference with two-side testing in a pairwise t-test (the value is in bold type when  $P \leq 0.05$ ); only items with  $P \leq 0.15$  were included in this table.*

As mentioned in section 1, the strategic competence items and the relationship competence items can be seen as elements of the networking competence. As expected, many of those items reappear as (almost) significant items ( $P \leq 0.15$ ) in Table 2. Surprisingly none of the organizing competence items reappear in Table 2. Tracing back the organizing competence items in the competence assessment tool of Lans et al. (2005) and Bergevoet and Van Woerkum (2006) revealed that most of these items relate to working with personnel, i.e., human resource management issues. Most of the participants in this study had no employees, and if they had employees, they were mostly family members. To learn about improving organizing competence related to networking, items should have been included on “knowing where to find the right people at the right moment”. Related items such as “Find relevant information” and “Frequently test ideas with others” were indeed found significant (Table 2). This indicates that “organizing competence” using other items likely would have yielded significant results.

Data of the evaluation forms revealed that many participants considered the use of a network for retrieving relevant information for business development an *eye-opener*. Table 2 also shows that many strategic competencies (not directly related to networking competence)

were found significant. The business plan development part of the intervention was mainly added to the program as a means to keep the participants motivated but seemed to have had an impact on its own. Also the items on perceptions on external developments showed that after the intervention participants were more aware of their own business strategy and felt less threat from developments that are of little relevance in their strategy (e.g. increased global competition when selling specialty products at the own farm).<sup>1</sup>

### 3.2 Perceptions on developments in the external environment

The reason for including items on perceptions on developments in the questionnaire was that developing networking competence should lead to better-informed farmers and growers. And theoretically, if farmers and growers become better informed, they will consider the environment as more predictable and will be less threatened by it. Table 3 presents the (almost) significant items with respect to the changes in perceptions on developments in the external environment. There is an indication ( $P \approx 0.10$ ) that after the intervention program participants felt less threatened by the opening up of world agricultural markets and by policy for rural areas and a little more threatened by the closer-at-home environment (soil type, presence of a nature conservation area). An explanation for this finding may be that participants have become more aware what they can do themselves anticipating and dealing with policy issues. However, when they regain control of the situation, they realize their own vulnerability of the business, i.e., the dependence on soil type and location.

**Table 3 Difference in baseline scores and final scores on perceptions on developments in the external environment (observations of the group program and individual program combined)**

	part of:	N	baseline scores		final scores		(2-1)	P
			AVG (1)	SD	AVG (2)	SD		
<b>Opportunities or threats</b>								
Opening of world agric. markets	econ. develop.	13	0.46	1.56	1.31	1.25	0.85	0.10
Policy for rural areas	political env.	14	0.00	1.24	0.43	1.60	0.43	0.11
Soil type	natural env.	12	1.33	1.30	0.33	1.56	-1.00	0.07
Presence nature conservation area	natural env.	14	-0.07	1.59	-0.79	1.85	-0.71	0.10
<b>Predictability of the environment</b>								
European environmental laws	political env.	14	-0.64	1.65	-1.64	1.01	-1.00	0.06
EU policy on markets, prices, income	political env.	13	-0.54	1.76	-1.46	1.39	-0.92	0.09
Sales prices	buyers	13	0.54	0.97	-0.54	1.33	-1.08	<b>0.01</b>
Sales opportunities	buyers	12	0.67	0.78	-0.50	1.31	-1.17	<b>0.02</b>
Global Competition	competition	12	1.00	0.95	-0.25	1.66	-1.25	<b>0.03</b>
Weather conditions	natural env.	12	-0.58	1.51	-2.17	1.03	-1.58	<b>0.00</b>

*N = number of pairwise comparisons; only items that were completed in both questionnaires could be included in the analyses. AVG. = average of N observations; Min. score per item = -3 (severe threat; unpredictable); max. score per item = +3 (big opportunity; highly predictable); SD = standard deviation with N observations. P = Significance of the difference with two-side testing in a pairwise t-test (the value is in bold type when  $P \leq 0.05$ ); only items with  $P \leq 0.15$  were included in this table.*

With respect to the predictability of the environment, it is surprising to note that for all items included in Table 3, participants indicated a lower predictability after the intervention than before. Moreover, four of the six items concern market conditions and price formation. No

<sup>1</sup> These result were found when linking strategies to perceptions on developments of the external environment but have not been reported in this paper.

major shocks in market conditions that could explain those results had occurred during the intervention programs. The most likely explanation for this finding is that participants, while completing their business plan, became aware of the limited predictability of markets and prices and therefore gave lower scores in the second questionnaire.

### 3.3 Differences between the individual and the group program

Although the nature of the intervention was kept as equal as possible in both programs, a group intervention may evoke other effects than individual interventions. Table 4 shows that for 16 items in the questionnaire, the change in scores in the group program differed (almost) significantly from the change in scores in the individual program.

**Table 4 The differences between baseline and final scores in the group program compared with the differences between baseline and final scores in the individual program**

	final scores-baseline scores group program			final scores-baseline scores individual program			(A-B)	P
	N	Avg (A)	SD	N	Avg (B)	SD		
<b>Opportunities or threats</b>								
Consumer concerns food safety	10	1.20	1.03	5	-0.80	1.30	2.00	<b>0.01</b>
EU policy on markets prices income	10	0.60	1.07	4	-0.50	1.00	1.10	0.10
Global competition	10	-0.50	2.59	3	-3.33	2.31	2.83	0.12
<b>Predictability</b>								
Subsidy policy	9	0.44	1.24	4	-1.75	1.26	2.19	<b>0.01</b>
Policy for rural areas	8	-0.88	1.55	5	1.40	1.67	-2.28	<b>0.03</b>
Availability of financial inputs	9	-0.44	0.53	3	1.67	0.58	-2.11	<b>0.00</b>
Sales opportunities	9	-1.78	1.20	3	0.67	0.58	-2.44	<b>0.01</b>
Agricultural supply chains	9	-0.67	1.12	3	0.67	0.58	-1.33	0.08
Weather conditions	9	-2.00	1.41	3	-0.33	0.58	-1.67	0.08
<b>Competences</b>								
Opportunity of new technology	13	-0.04	1.09	5	-1.00	0.71	0.96	0.09
Importance of good planning	13	0.31	1.03	5	-0.80	0.84	1.11	<b>0.05</b>
Opportunity of EU expansion	13	0.46	0.88	5	-0.40	1.34	0.86	0.13
Priority setting	11	0.82	0.98	5	0.00	0.71	0.82	0.12
Importance of producing mostly	13	0.31	0.75	5	-0.80	0.84	1.11	<b>0.02</b>
<b>Communication skills</b>								
Others think that I am sensitive	12	0.67	0.78	5	-0.60	0.55	1.27	<b>0.01</b>
Sensitive for critique of others	12	-0.13	0.74	5	1.00	1.22	-1.13	<b>0.03</b>

*N = number of observations per program; AVG. = average of N observations; SD = standard deviation with N observations. P = Significance of the difference with two-side testing in a t-test for independent samples (the value is in bold type when  $P \leq 0.05$ ); only items with  $P \leq 0.15$  were included in this table.*

In a traditional experimental setting the obvious conclusion would be that both intervention programs produce different results. For this study, two remarks have to be made.

First, Table 4 only shows the items that are (almost) significant ( $P \leq 0.15$ ). None of the items of Table 2, which related to developments in strategic and networking competences, reappear in Table 4. This suggest that, despite the differences, both intervention programs can be applied to develop strategic and networking competences.

Second, the fact that participants could choose to which program they would like to be assigned, may also have caused some of the differences found. The observation that in the individual program, a significantly lower share of the participants completed the second questionnaire than in the group program ( $\chi^2$ -test;  $p=0.03$ ), may be an indication that the more hesitating farmers and growers had chosen for the individual program. Additional analyses on the scores of the participants in both groups before the interventions started indeed showed that differences in baseline scores may account for at least six of the significant differences found in Table 4. Furthermore, there is some evidence that farmers or growers who emphasized minimum costs, rural development and craftsmanship in their business strategy were over-represented in the individual program and farmers and growers who emphasized optimization and rationalization in their business strategy were over-represented in the group program.

#### **4. Conclusions**

The results presented in this paper have demonstrated that it is indeed possible to develop networking competence of farmers and horticultural growers with intervention programs like the ones designed in this study. Items in the questionnaire that relate most strongly to networking competencies, such as being able to ‘search information frequently’, ‘find relevant information’, and ‘frequently test ideas with others’ were significantly improved through the interventions (Table 1). Data of the evaluation forms revealed that many participants considered the use of a network for retrieving relevant information for business development an *eye-opener*.

No conclusions can be drawn with respect to the impact of the individual program compared with the group program. To get a high level of commitment, participants in this study could choose in which intervention program they would like to participate. Analyses of baseline scores (before the intervention took place) revealed that participants in the individual program were significantly different from the participants in the group program and that these baseline differences may explain some of the differences found between the programs after the interventions had taken place. However, no differences were found between intervention programs with respect to developments in strategic and networking competences. This suggests that both intervention programs can be applied to develop these competences. The strategic-management researchers who executed the individual and group programs expressed that they believe that a combination of both interventions would give the best results.



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## Annex 1 Data collection in the group program <sup>1)</sup>

	intake + baseline measure- ment	grm 1	grm 2	grm 3	evp	grm 4	bc	rgm	final measure- ment grm5
Date	Nov-Dec yr 1	Dec yr 1	Jan yr 2	Feb yr 2	Feb Mar yr 2	Apr yr 2	June yr 2	June yr 2	Oct yr 2
<b>Evaluations:</b>									
- <i>on paper forms</i>		X	X	X		X			X
- <i>oral</i>					X		X	X	X <sup>2)</sup>
<b>Survey items on:</b>									
- <i>farm/firm structure</i>	X								
- <i>perceptions on external developm.</i>	X								X
- <i>enterpr. competencies</i>	X								X
- <i>personality</i>	X								
- <i>farm/firm development during the program</i>									X
<b>Involved:</b>									
- <i>participants</i>	X	X	X	X	X	X			X
- <i>researchers</i>	X	X	X	X		X	X	X	X
- <i>M&amp;E team member</i>	X	X			X	X	X	X	X

<sup>1)</sup> grm = group meeting; evp = evaluation via phone by M&E team member; bc = bilateral conversations between researchers and M&E team member; rgm = researchers group meeting (to 'harvest' all the lessons learned by the strategic-management researchers)

<sup>2)</sup> participants who were not present at this meeting have been evaluated via phone.

## Annex 2 Data collection in the individual program <sup>1)</sup>

	intake + baseline measure- ment	mrp 1	mrp 2	evp	mrp 3	bc	rgm	fiinal measure- ment gm
Date	Nov-Dec yr 1	Jan yr 2	Feb yr 2	Feb-May yr 2	May yr 2	June yr 2	June yr 2	Oct yr 2
<b>Evaluations:</b>								
- <i>on paper forms</i>		X	X		X			X
- <i>oral</i>				X		X	X	X <sup>2)</sup>
<b>Survey items on:</b>								
- <i>farm/firm structure</i>	X							
- <i>perceptions on external developm.</i>	X							X
- <i>enterpr. competencies</i>	X							X
- <i>personality</i>	X							
- <i>farm/firm development during the program</i>								X
<b>Involved:</b>								
- <i>participants</i>	X	X	X	X	X			X
- <i>researchers</i>	X	X	X		X	X	X	X
- <i>M&amp;E team member</i>	X			X	partly <sup>3)</sup>	X	X	X

<sup>1)</sup> mrp = meeting between researcher and participant; evp = evaluation via phone; bc = bilateral conversations between strategic-management researcher and M&E- team member; rgm = researchers group meeting (to 'harvest' all lessons learned by the strategic-management researchers); gm = first and at the same time last group meeting for the participants in the individual program

<sup>2)</sup> participants who were not present at this meeting have been evaluated via phone

<sup>3)</sup> members of the M&E team were present at some of the mrp3-meetings to get an impression of the coaching methods applied by the strategic-management researchers