Entrepreneurship education – does it matter?

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Abstract
This paper addresses an answer to the question: does entrepreneurial education lead to establishment of new firms?. The research in the paper was based on a survey with a questionnaire. The respondent sample was former students at Luleå University of Technology and the questionnaire was sent to two different groups of respondents, a Respond group (who had passed an entrepreneurial education) and a Control group (who had not passed an entrepreneurial education). The respondents had the same educational background unless the entrepreneurial education. In addition to the survey three (short) telephone interviews were performed. The paper shows that individuals attending entrepreneurial education are more prone to start firms, to start several firms and to create larger firms, compared to the Control group. The telephone interviews show in addition to this that there is an entrepreneurial thinking amongst the persons interviewed. To sum up: the answer on the question “does entrepreneurial education lead to the establishment of new firms?” – can out of the presented results be formulated as yes!

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1. Introduction

When discussing small firms and business enterprise it is unavoidable to talk about new firms’ formation. New firms’ formations in Sweden, as in many other countries, are dependent on the citizens’ fundamental approach and knowledge about this phenomenon. Some people who establish new firms are socialized into an entrepreneurial culture by for example associated persons and their firms which probably will make the establishment process easier. This social heritage or this entrepreneurial culture is consequently an important factor for the establishment of new firms and also for the amount of new firms. Other people who establish new firms have never been a part of an entrepreneurial culture except as employees. Evidently these two groups have different pre-requisites for self-employment and have also probably different opinions about the opportunities and threats associated to self-employment and the establishment of new firms, also called entrepreneurial thinking.

According to Johannisson, Madsén, and Wallentin (2000, p. 34), entrepreneurial thinking can be defined as “when a person in her way of thinking focus business enterprise, is fertile in ideas, is willing to discuss her ideas with other persons, is active and concentrate on realizing what has been determined”. The lack of entrepreneurial thinking can be regarded as an entry barrier. However entry barriers are of different nature which among other things, as entrepreneurial culture, depends on the type of firm or the type of industry. In addition to that entry barriers can also be associated to individuals, markets, technical development, resources, and the organization of the new firm or within the individuals themselves. When new firms are established different entry barriers can occur and these have to be mastered if the establishment will be successful.
2. **Challenges in entrepreneurship education**

There are several ways to reduce problems associated to the establishment process, for instance the influence of entry barriers, and thereby increase the amount of new firms. One way to reduce the problems is to educate individuals in entrepreneurship and business enterprising. However, the research field has conflicting perspectives whether it is possible to educate entrepreneurship and business enterprising or not. An interesting and important question is therefore: is it possible to teach people to be more entrepreneurial and more interested in establishing new firms? The question is much-disputed in research and we can see two answers, and these are yes or no, see for example Jack and Anderson (1998) and Henry, Hill, and Leitch (2005). The yes answers are connected to “science” and the no answers are connected to “art”. This refers to the problems in teaching people in entrepreneurship. Some things are assumed to be easy to teach, “science” and other things, “art” are not easy to teach.

The yes answers are connected to the more traditional techniques which are necessary to run a firm such as accounting, budgeting and marketing and Drucker (1985) writes ”The entrepreneurial mystique? It’s not magic, it’s not mysterious, and it has nothing to do with genes. It’s a discipline. And, like any discipline, it can be learned”. Also Kuratko (2003, page 11) writes ”…entrepreneurship, or certain facets of it, can be taught”. Both statements can be understood as representatives for a scientific perspective on entrepreneurship which means that it is possible to educate individuals in entrepreneurship and business enterprising. In other words we can connect these standpoints to the “yes-answers” and from such a perspective, entrepreneurial education would increase the number of established firms.
The no answers are connected to the more creative and innovative parts in the entrepreneurial process and this perspective on entrepreneurship as an art are related to aspects that lie within individuals’ characteristics, and therefore can be difficult to taught, Henry et al (2005). Consequently, such perspective means that entrepreneurial education is pointless in order to increase peoples’ formation of firms. Some researchers underline the importance of passion for running a business, and therefore question whether it is possible to educate in such way that this passion can emerge, while other researchers argue that the passion can be strengthened by entrepreneurial education, Souitaris et al, (2006), Cox et al, (2002); and Hansemark, (1998).

There is however little research presented that is focusing the benefit/outcome of teaching entrepreneurship in the shape of new firms. According to this and the discussion above, an important question rises “does entrepreneurship education matter”. Different researchers however emphasize the difficulties to evaluate the benefit or the importance of teaching entrepreneurship, see McMullan and Gillin (2001). Brockhaus et al (2001) writes “the actual contribution that such courses have on entrepreneurial activity remains unclear”. Cox et al (2002) adds “much of the entrepreneurship research to date has not provided empirical support for the claim that completion of formal courses in entrepreneurship and small business management increases the likelihood that an individual will start a business”.

3. The problem and the purpose

Conclusions like those named above are presumably based on different problems in studying entrepreneurship education and its outcome. The problems are above all connected to time, specific the time delay from the end of an entrepreneurship education until a possible business start. The time delay can be long and in that case it can be difficult to determine why an
individual have established a new firm. Was the individual influenced of the entrepreneurial education or are there other factors that have inspired individuals to establish new firms? It is in our opinion both desirable and important to clarify the impact of entrepreneurship education in order to establish new firms. In other words, do those who have participated in an entrepreneurship program established new firms to a higher extent than those who have not participated?

The time delay can be described as a firm’s development process. Nilsson (1997) illustrates this process as consisting of three phases: a creative phase, a setting-up phase and an operational phase, see figure 1.

![Figure 1. Firm’s development process. Source: Nilsson (1997)](image)

The creative process comprises the process that precedes a firm’s establishment and can be characterised as a process “from concept to company”. It should however be pointed out that it is the individual, the prospective founder of a firm, who is in focus during the creative phase, as at this time, no firm exists in the true sense. The firm exists purely as a mental picture in the mind of its prospective founder. It is not until a firm has actually been founded and established that we can retrospectively see it as a firm and place it in the creative phase. This in turn means that it is not until the transition from the creative to the setting-up phase, that is at point A in figure 1, that the firm is started, and it is set up during the second phase, the setting-up phase. The setting-up phase comprises such activities as commercialising a new product, which means that the founder of the firm must contact potential customers, organise production and distribution. By point B the firm is set up, which means that
customers define the firm as existing. Then begins the operational phase that is the ongoing commercial activities.

The above described development process present a better picture of the course of events than the one where the establishment of a new firm is seen as a single episode, see point A in figure 1. This latter description is too static and do not consider the time delay which is inherent in a firms development process. As a result of this the static view on a firm’s development process is not interesting or useful when the purpose is to study if individuals who have passed an entrepreneurial education are more willing to start and run a firm then those who have not passed such an education. In this paper it is therefore natural to choose the process view of a firm’s development process, see figure 1. We can imagine that a process like this is very complex and dynamic. In other words there are a lot of different factors, for example factors connected to the person, sociological factors and factors connected to the environment, who have to interact if the development process will succeed. One way to facilitate this interaction and consequently make it possible for a firm’s development process to succeed is different kind of entrepreneurial educations. But the question is “does it matter?”. It is in our opinion both desirable and important to clarify the entrepreneurial educations consequences on individuals’ willingness to establish new firms and by extension the establishment of new firms. The purpose of this paper is then does entrepreneurial education lead to establishment of new firms?

4. Method
To find an answer on the question “does entrepreneurial education lead to establishment of new firms?” it was necessary to compare individuals who had passed an entrepreneurial education to those who had not. This way to work made it possible to discover divergences in
the amount of established new firms in the two groups of individuals. In the view of time delay in a firm’s development process it also was essential to use a longitudinal approach using two groups of respondents. This procedure is supported by Garavan and O’Cinnéide (1994, p. 5), who writes ”Longitudinal research designs, using control groups to compare participants with individuals who did not have entrepreneurial education experience, are needed to examine the lasting effects of entrepreneurship education and training interventions”.

To answer the question “does entrepreneurial education lead to, establishment of new firms?” it was necessary to perform both a quantitative and a qualitative study so that both activity and thinking were explored properly. As a first step we conducted a quantitative study which is presented in this paper.

The research in this paper was based on a survey with a questionnaire. The respondent sample was former students at Luleå University of Technology (LTU). During a period of 10 years (1995-2005) an entrepreneurial education called “Entrepreneurship and new firms’ formation” was carried out at the university. The education embraced 15 ECT (European Credit Transfer System) during one semester. The survey was sent to two different groups of respondents. Those students who had passed their ordinary program (Master of Business Administration and Economics or Master of Science in Engineering) and also had completed the entrepreneurial education at the University constituted the first group (Respond group), this means that the census was investigated. The second group (Control group) included a sample of those students who had not attended the course in entrepreneurship at the University but had passed their ordinary program (Master of Business Administration and Economics or
Master of Science in Engineering). The respondents had in other words the same educational background unless the entrepreneurial education.

The survey consisted of 18 questions divided into the following areas:

- background information
- information of potential new businesses
- information of entrepreneurial thinking and learning

<table>
<thead>
<tr>
<th>Sample size (number)</th>
<th>Responses (number)</th>
<th>Response rate (percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respond group</td>
<td>117</td>
<td>77</td>
</tr>
<tr>
<td>Control group</td>
<td>141</td>
<td>88</td>
</tr>
<tr>
<td>total</td>
<td>258</td>
<td>165</td>
</tr>
</tbody>
</table>

Table 1. Sample size and response rate

After a three-wave mailing 165 valid questionnaires were obtained from a valid sample of 258 persons, see table 1, this correspond to a response rate of 64 %. The respondents’ answers in the questionnaire were coded in SPSS 17.0 (Statistical Package for the Social Sciences).

In addition to the survey three (short) telephone interviews have been performed to shed light on the effect an entrepreneurial education can have on individuals’ decision to establish a new firm. The three respondents were chosen randomly out of persons in the Respond group who had answered the questionnaire and had established a new firm. Only three questions were used. Below the three questions are named:

1. Did you have an intention to establish a new firm when you entered the education?
2. Would you have established the new firm even if you had not entered and passed the education?

3. Did the education inspire you to establish a new firm?

5. **Empirical findings**

Overall results indicate that there is a clear distinction between the firms which have been established by persons who have passed the studied entrepreneurial education (the Respond group) and the firms in the Control group. The firms in the Respond group are for example much bigger than those in the Control group.

Individuals who have passed the entrepreneurial education (the Respond group) have been more prone to establish new firms than those who have not attended the entrepreneurial education. As table 2 shows there are three times more persons in the Respond group who have established new firms than those in the Control group.

<table>
<thead>
<tr>
<th>Table 2. Persons who have established new firms (percent)</th>
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<tr>
<td><strong>Respond group</strong></td>
</tr>
<tr>
<td><strong>Control group</strong></td>
</tr>
</tbody>
</table>

Most of the established firms, in both the Respond group and the Control group, can be characterised as service companies. Manufacturing firms are therefore very rare among the established firms.

Of those who have passed the entrepreneurial education and have started one firm there are 21 percent who also are running two or more firms’, see table 3. Corresponding percent for those
who not have attended an entrepreneurial education is nought percent. Consequently, individuals in the Respond group are more active in starting new firms and in running firms.

**Table 3. Persons who are running two firms or more (percent)**

<table>
<thead>
<tr>
<th></th>
<th>Respond group</th>
<th>Control group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>21</td>
<td>0</td>
</tr>
</tbody>
</table>

The activity amongst those individuals who have established new firms in the Respond group is also visible when we for example are regarding the number of employees. The total numbers of employees in established new firms have increased from 41 into 148 persons (+261 percent) in the firms in the Respond group. The firms in the Control group have no employees at all.

**Table 4. Total number of employees in established new firms (numbers)**

<table>
<thead>
<tr>
<th></th>
<th>Start up year</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respond group</td>
<td>41</td>
<td>148</td>
</tr>
<tr>
<td>Control group</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

The amount of the total turnover 2009 in the Respond group was 503 251 000 Swedish crowns (Skr) (56 545 056 euro) which correspond to a growth of 132 percent from start until 2009. The corresponding turnover in the Control group was 1 745 000 Skr (196 067 euro), which in fact was a reduction of the total turnover by 24 percent. Another interesting development concerning the firms in the Respond group is the reduction of turnover per employee. This has declined from 5.3 million Skr (596 000 euro) (during the start up year to 3.4 million Skr (382 000 euro) per employee 2009.
Table 5. Total turnover in established new firms (thousands of Skr)

<table>
<thead>
<tr>
<th>Start up year</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respond group</td>
<td>216 130</td>
</tr>
<tr>
<td>Control group</td>
<td>2 296</td>
</tr>
</tbody>
</table>

The established new firms in the Respond group are much bigger than those in the Control group and they also have had much more positive growth process than those in the Control group.

A person’s entrepreneurial thinking will make it easier to establish a new firm and it is assumed to be an important factor in the establishment process, Johannisson et al (2000). This study shows that those who have not attended the entrepreneurial education regard the entrepreneurial thinking as an inheritance contrary to those who have passed the entrepreneurial education who think that you can create your destiny by yourself. The telephone interviews, see table 6, show that there is a kind of entrepreneurial thinking since all three had an intention to start a firm when they entered the entrepreneurial course. We can also see that the education inspired the three persons to establish new firms.

Table 6. Results from the telephone interviews

<table>
<thead>
<tr>
<th></th>
<th>1. Intention to establish a firm?</th>
<th>2. Established a new firm without education?</th>
<th>3. Did education inspire you?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respondent A</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Respondent B</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Respondent C</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>
The telephone interviews indicate that the three course participants had advantages of participate the entrepreneurial course in the shape of establishing new firms.

6. Discussion

This study shows that individuals attending entrepreneurial education are more prone to start firms, to start several firms and to create larger firms, compared to the Control group. From that point of view it seems like entrepreneurial education really matters. The telephone interviews show in addition to this that there is an entrepreneurial thinking amongst the three persons interviewed. They had all namely an intention to establish a firm when they entered the entrepreneurial course which closely can be connected to the definition of entrepreneurial thinking by Johannisson et al (2000, page 34) who writes “when a person in her way of thinking focus business enterprise, is fertile in ideas, is willing to discuss her ideas with other persons, is active and concentrate on realizing what has been determined”. Most probably do those persons who enter an entrepreneurial education have a plan to establish and start a new firm, and if so, such an education can work as a starter for those individuals who have this intention.

To sum up: the answer on the question “does entrepreneurial education lead to the establishment of new firms?” – can out of the presented results be formulated as yes!

Future research addressing other variables that have influenced individuals in establishing new firms is however needed. Therefore, the aim is to continue the study with in depth interviews in order to catch these other possible dimensions. Furthermore, in depth interviews might provide deeper insights in individuals’ entrepreneurial thinking and their learning processes to become entrepreneurs, as a result of their education.
Another interesting arena for future research is to study similarities between a firm’s development process and the process of New Product Development (NPD). A firm’s development process, see figure 1, have been described as consisting of three phases a creative phase, a setting-up phase and an operational phase. In this context Ylinenpää (2007, page 67) writes “the entrepreneur is seen as a pattern breaking innovator...”, which implies that a firm’s development process can bee seen as a creative and an innovative process. In the creative phase the business idea can bee seen as fuzzy and easy to change and the degree of formalization is often low but the need of creativity is high, Wallas (1945). In this description we can see similarities to the process of New Product Development (NPD) and the first phase in that process namely the Fuzzy Front-End (FFE). Kim and Wilemon (2002) discuss the content of the FFE and they say that this phase of the NPD is characterised of fuzzy ideas, informal decision-making, and low degree of formalization and so on. In the same way it is possible to compare the setting-up phase in a firm’s development process to the development phase in the NPD. To study and explore similarities in the two processes and to explore the possibilities to use experiences from the NPD process in the firm’s development process would be an interesting route for future research.
References