Student entrepreneurs' awareness and use of entrepreneurial support instruments

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ABSTRACT This study tries to analyze student entrepreneurs' awareness and use of the entrepreneurial support instruments offered by the University of Twente. Therefore, twenty-three subjects were recruited to be involved in this study. A list of entrepreneurial support instruments was composed. Respondents were asked whether they knew about the existence of the instruments and if they make use or had made use of it. The results show that business student entrepreneurs are not more likely to be more aware of the instruments than those from other programmes. Furthermore, student entrepreneurs who are in the early stages of the entrepreneurial process do not make use of more concept development support than those who are in the later stages; and, student entrepreneurs who are in the later stages do not make use of more business development support than those who are in the early stages. Moreover, student entrepreneurs from abroad do not make use of less instruments than those from Twente region. Withal, the proportion of student entrepreneurs who make use of entrepreneurial support instruments is independent of gender. Due to the results, none of the hypothesis was confirmed. However, a suggestion for future research is to expand the sample size to increase the reliability of the outcomes. Another suggestion is to conduct this study at other universities in the Netherlands. This study is not generalizable to other universities.

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1. INTRODUCTION

In the Netherlands, the University of Twente (UT) stands head and shoulders above the competition as an entrepreneurial university, according to the ScienceWorks-Elsevier research report. The partnership at Kennispark Twente combines all the facilities needed by startups: the innovation campus provides the most facilities for innovative companies. And with its seed fund the UT offers companies – in particular startups – more financial support than other universities (University of Twente, 2013). On the one hand, these supporting instruments seem attractive for students who want to start a business or already have one. On the other hand, the fact that the UT offers instruments does not imply student entrepreneurs (SEs) actually make use of them. For instance, SEs may not make use of the office spaces provided by the UT, because they think these are too expensive. Or they do not make use of the seed fund, because they do not know how or they believe this is too complicated.

Most previous studies have analyzed the effect of entrepreneurship education on student entrepreneurship and did not take into account the broader role universities nowadays can play in stimulating student entrepreneurship: knowledge commercialization (Zaharia & Gibert, 2005). However, a project called Global University Entrepreneurial Spirit Students' Survey (GUESS) did. GUESSS is an international research project using a geographical and temporal comparison to investigate the entrepreneurial intention and activity of students. The complete GUESSS data set for 2011 includes information from more than 93,000 respondents across 26 countries, of which 13,121 are from the Netherlands. According to the GUESS study in the Netherlands, "more than 50% of students know about entrepreneurship lectures and seminars at their university (of applied sciences). In contrast, a majority of students does not know whether their university offers lectures and seminars about family firms, or whether a contact point for entrepreneurial issues or a platform with potential investors exist" (p. 26). The study also provide evidence that university offerings can be improved, because students are not that satisfied about the offerings they already used or attended. If a contact platform with potential investors or seed funding is offered at the universities, students are not that satisfied with these offers. On the other hand, "students are most satisfied with offerings such as technology and research resources (e.g. library, web, etc.), lectures and seminars about innovation, idea generation and entrepreneurship in general as well as with workshops or networking events with experience entrepreneurs" (p. 23).

The GUESS study series strongly recommend universities to examine whether their offerings for potential entrepreneurs are well known among their students, and are sufficient in terms of quality. However, what is different between this study and the GUESS study is that this study focusses on student entrepreneurs. SEs are already doing entrepreneurial activities, so you would expect they are aware of the instruments and make use of certain ones. But, is that true?

In short, this study investigates, first, to what extent SEs are aware of the entrepreneurial support instruments offered by the University of Twente; and second, which of these instruments SEs actually use. The opinions of the SEs about the instruments is also briefly mentioned in this paper. To give answer to these questions, a survey was conducted and send to the SEs of the UT.

2. LITERATURE REVIEW

Most previous studies have analyzed the effect of entrepreneurship education on student entrepreneurship. Research show that university programmes on entrepreneurship are an important element in forming entrepreneurship intentions. However, the direction of the effect of entrepreneurship education on entrepreneurship intention is unclear and depends on the university context and the elements of the entrepreneurship courses (GUESS, 2012). Prior research (Oosterbeek, van Praag, & IJsselstein, 2010) even show that the programmes do not have the intended effect: the effect on students' self-assessed entrepreneurial skills are insignificant and the effect on the intention to become an entrepreneur are even negative. On the other hand, von Graevenitz, Harhoff and Weber (2010) have found evidence that entrepreneurship courses have significant positive effects on students' self-assessed entrepreneurial skills. Souitaris, Zerbinati and Al-Laham (2007) confirm this. Their results show that the programmes raise some attitudes and the overall entrepreneurial intention and that inspiration (a construct with an emotional element) is the programmes' most influential benefit. Other researchers take into account the wider context of students in their study on student entrepreneurship. Liñán, Rodríguez-Cohard and Rueda-Cantuche (2011) suggest that personal attitude and perceived behavioral control are the most relevant factors explaining entrepreneurial intentions. Another example is Lüthje & Franke (2003). They claim that students' entrepreneurial intentions are affected by both personality characteristics and perceived barriers and support factors in the environment.

Nevertheless, the studies mentioned above do not take into account actual entrepreneurial behavior. However, there are researchers who did take into account this variable in their study, for example Kraaijenbrink, Groen and Bos (2010). In their study on student entrepreneurship and university support, they made the distinguish between entrepreneurial and non-entrepreneurial students. Their results suggest that entrepreneurial students perceive more business development support (e.g. the provision of money and lending the reputation of the university) than non-entrepreneurial students. According to Kraaijenbrink, Groen and Bos, this could be explained by the fact that only these students have taken the effort to look for this type of support. Though, for this type of support there is no difference for desired support, while students having a business show a stronger desire that their universities should provide more educational and concept development support (e.g. the provision of awareness, motivation and business ideas). Kraaijenbrink, Groen and Bos suppose that students who already have a business "better have faced the limitations of the educational and concept development support of their universities and therefore think their university should do better" (p. 123). The purpose of this study is to analyze the use of the entrepreneurial support instruments offered by the UT.

3. RESEARCH MODEL

This study is driven by two questions that require an answer to analyze the use of the entrepreneurial support instruments offered by the University of Twente: To what extent student entrepreneurs are aware of the offerings and which ones they use.

To what extent SEs are aware of the instruments, depends on the education programme they follow. Currently the teaching of entrepreneurship is not yet sufficiently integrated in higher education institutions' curricula. Available data show that the majority of entrepreneurship courses are offered in business and economic studies (European Commission, 2008). This mean that SEs who follow a business or economic study are probably more exposed to information about entrepreneurial support

instruments than those who follow another study. Therefore, the first hypothesis is:

Hypothesis 1: *"Business student entrepreneurs are aware of more instruments than those from other programmes".*

Which instruments SEs use depends on the stage of the entrepreneurial process they are. According to the National Content Standards for Entrepreneurship Education, there are five stages in the entrepreneurial process, which are discovery; concept development; resourcing; actualization and harvesting. According to Shane and Venkataraman, the first two stages can be considered as the early stages of the process, while stage three to five can be considered as the later stages. Shane and Venkataraman (2000) also claim that concept development support is typically given in the early stages of the entrepreneurial process. Business development support concerns the provision of support that is typically given in the later stages of the process. Therefore, you would expect that SEs who are in the early stages of the entrepreneurial process make most use of concept development support, while SEs who are in the later stages make most use of business development support.

Hypothesis 2a: *"Student entrepreneurs who are in the early stages of the entrepreneurial process make most use of concept development support".*

Hypothesis 2b: *"Student entrepreneurs who are in the later stages of the entrepreneurial process make most use of business development support".*

Because it is unlikely that all SEs make use of all the instruments the University of Twente offers, there will be a gap. This gap will be the largest between SEs from Twente region and those from abroad. According to Scott and Cheraghi (2012), there are five types of networks: a private network of advice relations with spouse, parents, other family and friends; a work-place network of boss, coworkers, starters and mentors; a professional network of accountants, lawyers, banks, investors, counselors and researchers; a market network of competitors, collaborators, suppliers and customers; and an international network of advice relations with persons abroad and persons who have come from abroad. Scott and Cheraghi say that, inter alia, trust increases size of the networks. Since SEs from abroad have left their parental home to study and live here, you could say they trust in others beyond family and friends more than SEs from Twente region do. Based on this assumption and the findings of Scott and Cheraghi, SEs from abroad should have more networks than those from Twente region. Therefore, SEs from abroad use less instruments offered by the UT than those from Twente region.

Hypothesis 3: *"Student entrepreneurs from abroad make use of less instruments than those from Twente region".*

The gap will be the smallest between male and female SEs. Although there is no country where women are more active than men in terms of entrepreneurship (Nandamuri, 2013), SEs, both male and female, are already doing entrepreneurial activities. Therefore there should be no reason why male SEs make use of more instruments than female SEs and vice versa.

Hypothesis 4: *"Male and female student entrepreneurs make use of the same amount of instruments".*

4. RESEARCH METHOD

4.1 Data collection procedure

To test the hypotheses, an online questionnaire was conducted and send to the student entrepreneurs at the University of Twente. Together with a member of the Student Union – an organization that is in close contact to numerous parties varying from the smallest student association to the executive board of the UT – a list of SEs was composed. Eventually, thirty-eight SEs were recruited to fill out the questionnaire. Prior to the study, the subjects were informed that the survey was about their awareness and use of the supporting instruments offered by the UT. Hence, the survey was also relevant for those SEs who have not made use of the instruments at that moment. The questions were asked in Dutch, since all the SEs on the list originate from the Netherlands.

4.2 Subject information

Twenty-three SEs (60.5%) filled out the questionnaire. Three respondents (13.0%) were female. The other twenty (87.0%) were male. Three respondents (13.0%) follow an education programme in the faculty Engineering Technology (ET), five (21.7%) in the faculty Electrical Engineering, Mathematics and Computer Science (EEMCS), two (8.7%) in Behavioral Sciences (BS), nine (39.1%) in School of Management and Governance (SMG) and four (17.4%) in Science and Technology (ST). The average age of the respondents is 23,7. Seven respondents (30.4%) originate from Twente region The other sixteen respondents (69.6%) come from abroad. The businesses of the student entrepreneurs who filled out the questionnaire exist between one and six years; the average is 3.2. Most of those SEs are in the fourth or fifth stage of the entrepreneurial process – as described in the previous part of this paper.

4.3 Measures

4.3.1 Awareness and use of the instruments

Together with a member of the Student Union, a list of the entrepreneurial support instruments offered by the University of Twente was composed. The instruments are divided into five categories, which are advisory opportunities; office spaces; financial arrangements; educational opportunities; and events. There are twenty-one instruments in total. In the table below you can see which instruments belong to each category.

Table 1. Entrepreneurial support instruments

Advisory opportunities
Acquisition and sales advise from KPMG
General business questions from KvK
Accounting support from KPMG
Legal counter from Kennispark
Coaching by Syntens, MKB Enschede, Alumnivereningingen and Twentse Ideeen Bank
Office spaces
Flexible workspaces from the SU in the Bastille
A small office from the SU in the Bastille
An office in the BTC-building via BTC-Twente
An office in the Gallery via BTC-Twente
Financial arrangements
Patent regulations from the UT
TOP program
Smart Creations
Educational opportunities
Minor/Master Innovation & Entrepreneurship from NIKOS
Thesis option within own company from NIKOS

Market research from Kennispark
Events
Studentondernemersdag
Inspire 2 Connect
RouteSuc6
Young Technology Award
Global Entrepreneurship Week
Start-Up Weekend

Awareness of the instruments is measured by asking whether the respondent knew about the existence of the certain instrument. The respondent had to indicate this for all the twenty-one instruments. The respondent could answer yes or no. The same applies for the use of the instruments. However, this is measured by asking whether the respondent make use or had made use of the certain instruments.

4.3.2 Business student entrepreneurs versus students of other programmes

Whether the respondent is a business SE or not is measured by asking in which faculty his or her education programme belongs. Hence, this could be a bachelor programme, premaster programme, master programme or minor. The University of Twente has six faculties, which are already named in the subject information section. One faculty is not mentioned yet. This is the faculty International Institute for Geo-Information Science and Earth Observation (ITC). Since none of the respondents follow an education programme in this faculty, this faculty is not mentioned yet.

SEs who follow an education programme in the faculty School of Management and Governance are considered as business SEs, because the education programmes in the faculty SMG provides regular and postgraduate courses and conducts academic research in the field of management and governance, in contrast to the programmes of other faculties.

4.3.3 Stage of the entrepreneurial process

As already mentioned in the research model section, the National Content Standards for Entrepreneurship Education claims the entrepreneurial process has five stages. To find out at which stage the SE is, each stage was described in the following way:

1 = I generate ideas, recognize opportunities, and determine the feasibility of ideas, markets, ventures, etc.

2 = I plan the venture, identify needed resources using a business plan, identify strategies to protect intellectual property, etc.

3 = I identify and acquire the financial, human, and capital resources needed for the venture startup, etc.

4 = I operate in the venture and utilizes resources to achieve its goals/objectives.

5 = I decide on the venture's future (growth, development, etc.)

The respondent had to choose the answer which fits best with his or her current situation.

4.3.4 Concept development support versus business development support

To test the second hypothesis, a distinction between concept development support and business development support had to be made. This is done in cooperation with a member of the Student Union. In the table below you can see the result.

Table 2. Concept development support versus business development support

Concept development support	**Business development support**	**Both**
	Advisory opportunities	
	Acquisition and sales advise from KPMG	
General business questions from KvK		
	Accounting support from KPMG	
Legal counter from Kennispark		
	Coaching by Syntens, MKB Enschede, Alumnivereningen and Twentse Ideeen Bank	
	Office spaces	
	Flexible workspaces from the SU in the Bastille	
	A small office from the SU in the Bastille	
	An office in the BTC-building via BTC-Twente	
	An office in the Gallery via BTC-Twente	
	Financial arrangements	
	Patent regulations from the UT	
	TOP program	
	Smart Creations	
	Educational opportunities	
Minor/Master Innovation & Entrepreneurship from NIKOS		
		Thesis option within own company from NIKOS
Market research from Kennispark		
	Events	
Studentondernemersdag		
Inspire 2 Connect		

RouteSuc6

Young Technology Award

Global Entrepreneurship Week

Start-Up Weekend

The division is based on the fact that concept development support typically is given in the early stages of the entrepreneurial process, while business development support concerns the provision of support that is given in the later stages.

4.3.5 Origin

For the third hypothesis, the origin of the respondent had to be known. In the hypothesis, a distinction is made between student entrepreneurs from Twente region and from abroad. This is measured by asking, first, from which of the twelve provinces they originate from; and second, if they originate from one of the seven municipalities which belongs to Twente region. These municipalities are Almelo, Borne, Dinkelland, Enschede, Haaksbergen, Hellendoorn, Hengelo, Hof van Twente, Losser, Oldenzaal, Rijssen-Holten, Tubbergen, Twenterand and Wierden.

4.3.6 Gender

There were no items used to measure the variable gender. However, gender was the moderator to investigate whether the use of entrepreneurial support instruments could depend on gender. Furthermore, the variable gender consists of men and women.

5. ANALYSIS AND RESULTS

5.1 Cross tabulations

In the appendix, you find cross tabulations (tables 3 – 7) with the results of the survey. The tables need some clarification. Firstly, each table consists of five parts, which are the five categories in which the entrepreneurial support instruments were divided. These were: (1) advisory opportunities; (2) office spaces; (3) financial arrangements; (4) educational opportunities; and (5) events. The numbers in the table are the findings of the survey. So, for example in table 3 you see that two of the nine Business students (Bs) are aware of none of the advisory opportunities, two business SEs are aware of one of the five advisory opportunities, three business SEs of two opportunities, and so on. The same applies for the other tables.

Secondly, two tables deviate from the other tables, which are tables 4 and 5. These tables consists of only one part, instead of five. This is due to the fact that these tables display the results of the use of concept development support (table 4) versus business development support (table 5). However, this is the only difference between these two tables and the tables described above.

Nevertheless, to do chi-square tests, a 2 x 2 contingency table is required. However, as you can see in the appendix, none of the tables satisfy this requirement. Therefore, the tables are collapsed. In the next paragraph more attention will be paid on those tables and the outcomes of the chi-square tests.

5.2 Chi-square tests

The first step of the chi-square test for independence is to establish hypotheses. The null hypothesis is that the two variables are independent – or, in case of hypothesis 1: the proportion of student entrepreneurs who are aware of entrepreneurial support instruments is independent of the education programme they follow. The alternative hypothesis to be tested is that the proportion of student entrepreneurs who are aware of entrepreneurial support instruments is associated with the education programme they follow.

In the tables (8 – 12) you find the results of the chi-square tests. The key idea of the chi-square test for independence is a comparison of observed and expected values. The numbers in the brackets are the expected values. These numbers can be calculated by multiplying the row total with the column total and then dividing this number by the total number of the table, which is twenty-three (number of respondents). The numbers without brackets are the observed values. Below each part of the table you find the outcome of the chi-square test. The number that you find here represent a probability. So, for example in table 8 you see that the outcome of the chi-square test for advisory opportunities is 0.31. This means that there is a 31% probability that any deviation from expected results is due to chance only. Since a p-value of 0.31 is greater than the conventionally accepted significance level of 0.05, the null hypothesis cannot be rejected. In other words, in case of hypothesis 1, there is no statistically significant difference in the proportion of SEs who are aware of entrepreneurial support instruments.

Note, it is important to keep in mind that the chi-square test only tests whether two variables are independent. It cannot address questions of which is greater or less.

5.3 Results

5.3.1 Hypothesis 1

Table 8 shows that among the respondents nine are business SEs. Apparently, the other fourteen follow an education programme in one of the other faculties than School of Management and Governance. In the table you can see that fifteen of the twenty-three SEs are aware of less than two or two of the five advisory opportunities offered by the University of Twente. On the other hand, eight SEs are aware of three or more advisory opportunities. Overall, SEs are the least aware of advisory opportunities. They are most aware of the office spaces, followed by the financial arrangements. The financial arragenements again are closely followed by the educational opportunities and the events.

According to hypothesis 1, business SEs are aware of more entrepreneurial support instruments than SEs from other programmes. Since the majority of the entrepreneurial courses is given in business and economic studies, these students are probably more exposed to information about entrepreneurial support instruments than those who follow another study. However, the chi-square tests do not support this. All the outcomes are greater than 0.05. The null hypothesis have to be accepted, which means that business SEs are not more likely to be aware of more instruments than SEs from other programmes.

Table 8. Results for business students versus students from other programmes

ADVISORY OPPORTUNITIES	**Aware of number of instruments**		
Faculty	**0 - 2**	**3 - 5**	**Total**
SMG	7 (5.87)	2 (3.13)	9
Other	8 (9.13)	6 (4.87)	14
Total	15	8	23
Chi-square test	0.31		

OFFICE SPACES	Aware of number of instruments		
Faculty	**0 - 1**	**2 - 4**	**Total**
SMG	3 (1.96)	6 (7.04)	9
Other	2 (3.04)	12 (10.96)	14
Total	5	18	23
Chi-square test	0.28		

FINANCIAL ARRANGEMENTS	Aware of number of instruments		
Faculty	**0**	**1 - 3**	**Total**
SMG	3 (3.13)	6 (5.87)	9
Other	5 (4.87)	9 (9.13)	14
Total	8	15	23
Chi-square test	0.91		

EDUCATIONAL OPPORTUNITIES	Aware of number of instruments		
Faculty	**0**	**1 - 3**	**Total**
SMG	2 (3.91)	7 (5.09)	9
Other	8 (6.09)	6 (7.91)	14
Total	10	13	23
Chi-square test	0.09		

EVENTS	Aware of number of instruments		
Faculty	**0 - 2**	**3 - 6**	**Total**
SMG	5 (3.91)	4 (5.09)	9
Other	5 (6.09)	9 (7.91)	14
Total	10	13	23
Chi-square test	0.35		

5.3.2 Hypothesis 2a

Two of the twenty-three student entrepreneurs is at the time of completing the questionnaire in the early stage of the entrepreneurial process. According to hypothesis 2a, SEs who are in the early stages of the entrepreneurial process, should make most use of concept development support, because this type concerns the provision of support that is typically given in the early stages of the process. However, according to the chi-square test, this is not the case, since 0.24 is greater than 0.05. This means that SEs who are in the early stages are not more likely to make use of more concept development support than SEs who are in the later stages.

Table 9. Results for SEs in the early stages versus SEs in the later stages (concept development support)

CONCEPT DEVELOPMENT SUPPORT	Use of number of instruments		
Stage	**0**	**1 - 10**	**Total**
Early	0 (0.78)	2 (1.22)	2
Later	9 (8.22)	12 (12.78)	21
Total	9	14	23
Chi-square test	0.24		

5.3.3 Hypothesis 2b

Two of the twenty-three SEs is in the early stages. That means that the other twenty-one are in the later stages. According to hypothesis 2b, these SEs should make most use of business development support, because this type of support is typically given in the later stages of the process. This is almost supported by the outcome of the chi-square test. However, 0.09 is still greater than 0.05. Besides, this outcome can be explained by the fact that there are only two respondents who are in the early stage of the entrepreneurial process. However, the outcome means that SEs who are in the later stages are not more likely to make more use of business development support than SEs who are in the early stages.

Table 10. Results for SEs in the early stages versus SEs in the later stages (business development support)

BUSINESS DEVELOPMENT SUPPORT	Use of number of instruments		
Stage	**0**	**1 - 12**	**Total**
Early	0 (1.13)	2 (0.87)	2
Later	13 (11.87)	8 (9.13)	21
Total	13	10	23
Chi-square test	0.09		

Hence, hypotheses 2a and 2b are not supported. This means that the stage of the entrepreneurial process and the type of support SEs use are independent.

5.3.4 Hypothesis 3

In the table below you can see that among the respondents fifteen originate from Twente region and eight from abroad (hence: not from Twente region). According to the hypothesis, SEs from abroad should make use of less instruments than those from Twente region. According to Scott and Cheraghi (2012), trust increases diversity of networks. Since students from abroad have left their parental home to study here, they probably trust in others beyond family and friends more than students from Twente region do. Nevertheless, the results do not support this. For all the five categories, the outcome of the chi-square test is more than 0.05. Therefore, we cannot say that SEs from abroad make use of less instruments than SEs from Twente region.

Table 11. Results for SEs from Twente region versus SEs from abroad

ADVISORY OPPORTUNITIES	Use of number of instruments		
Region	**0**	**1 - 5**	**Total**
Twente	3 (4.17)	5 (3.83)	8
Other	9 (8.73)	6 (7.17)	15
Total	12	11	23
Chi-square test	0.30		

OFFICE SPACES	Use of number of instruments		
Region	**0**	**1 - 4**	**Total**
Twente	5 (5.91)	3 (2.09)	8

Other	12 (11.09)	3 (3.91)	15
Total	17	6	23
Chi-square test	0.36		

FINANCIAL ARRANGEMENTS	**Use of number of instruments**		
Region	**0**	**1 - 3**	**Total**
Twente	8 (7.65)	0 (0.35)	8
Other	14 (14.35)	1 (0.65)	15
Total	22	1	23
Chi-square test	0.46		

EDUCATIONAL OPPORTUNITIES	**Use of number of instruments**		
Region	**0**	**1 - 3**	**Total**
Twente	8 (7.30)	0 (0.70)	8
Other	13 (13.70)	2 (1.30)	15
Total	21	2	23
Chi-square test	0.28		

EVENTS	**Use of number of instruments**		
Region	**0**	**1 - 6**	**Total**
Twente	6 (4.87)	2 (3.13)	8
Other	8 (9.13)	7 (5.87)	15
Total	14	9	23
Chi-square test	0.31		

5.3.5 Hypothesis 4

According to the fourth hypothesis, male and female student entrepreneurs make use of the same amount of instruments. In the table below you can see that the all the outcomes of the chi-square tests are more than 0.05. This means we have to accept the null hypothesis, which is that the proportion of SEs who make use of entrepreneurial support instruments is independent of gender. This correspondends with the hypothesis. However, this could be explained by the fact that among the respondents only three of the twenty-two are female. Therefore the outcome is not that reliable.

Table 12. Results for male SEs versus female SEs

ADVISORY OPPORTUNITIES	**Use of number of instruments**		
Gender	**0**	**1 - 5**	**Total**
Male	10 (10.43)	10 (9.57)	20
Female	2 (1.57)	1 (1.43)	3
Total	12	11	23
Chi-square test	0.59		

OFFICE SPACES	**Use of number of instruments**		
Gender	**0**	**1 - 4**	**Total**
Male	15 (14.78)	5 (5.22)	20
Female	2 (2.22)	1 (0.78)	3
Total	17	6	23
Chi-square test	0.76		

FINANCIAL ARRANGEMENTS	**Use of number of instruments**		
Gender	**0**	**1 - 3**	**Total**
Male	19 (19.13)	1 (0.87)	20
Female	3 (2.87)	0 (0.13)	3
Total	22	1	23
Chi-square test	0.69		

EDUCATIONAL OPPORTUNITIES	**Use of number of instruments**		
Gender	**0**	**1 - 3**	**Total**
Male	18 (18.26)	2 (1.74)	20
Female	3 (2.74)	0 (0.26)	3
Total	21	2	23
Chi-square test	0.57		

EVENTS	**Use of number of instruments**		
Gender	**0**	**1 - 6**	**Total**
Male	12 (12.17)	8 (7.83)	20
Female	2 (1.83)	1 (1.17)	3
Total	14	9	23
Chi-square test	0.83		

Surprisingly, according to the results, there are not many SEs who make use of the entrepreneurial support instruments offered by the university. The survey also contained open questions. For example, respondents were asked why they do not use the instruments they selected. The main conclusion is that SEs do not use the advisory opportunities, because overall they are not aware of them. Others say they do not need advice. The same applies for the financial arrangements. The SEs who do not use the office spaces which are available at the University of Twente believe these spaces are too expensive. Some SEs say they have arranged their own offices. There cannot be given a main conclusion on why SEs do not make use of the educational opportunities. Reasons differ across the respondents. Some say they are already doing entrepreneurial activities and therefore do not see the usefulness of following a master and/or minor Entrepreneurship. One respondent say he have done research by himself. Another say market research does not say anything. There is not much said about the thesis option within a SEs' own business. One respondent thinks this cannot be done for her business, because this business is not scientific enough. Another argue he just did not want to graduate within his own company.

6. CONCLUSIONS AND FUTURE RESEARCH

6.1 Conclusions

The findings of this study do not provide evidence there is a main effect of education programme on awareness of

entrepreneurial support instruments. Although it is possible that there is a difference between type of education programme and awareness of entrepreneurial support instruments, this difference is not significant so there is no evidence. As can been seen in table 8, business student entrepreneurs are not more likely to be aware of more instruments than student entrepreneurs from other programmes, which does not confirm hypothesis 1. The European Commission (2008) claims in their report about entrepreneurship in higher education that the majority of entrepreneurship courses are offered in business and economic studies. However, according to the results of this study, the assumption that student entrepreneurs who follow an education programme in business and economic studies are likely to be aware of more instruments is not supported.

Additionally, there is also no evidence for a significant difference between the stage of the SEs' entrepreneurial process and the use of type of support; concept development support versus business development support. This assumption was based on the findings of Shane and Venkataraman (2000), who claim that concept development support is associated with the early stages of the entrepreneurial process and business development support with the later stages. As can been seen in table 9, SEs who are in the early stages of the entrepreneurial process do not make use of more concept development support than SEs who are in the later stages of the entrepreneurial process. On the other hand, as can been seen in table 10, SEs who are in the later stages of the process do not make use of more business development support than SEs who are in the early stages. For this reason, the assumption is not supported.

That SEs from abroad make use of less instruments than SEs from Twente region is also not supported by this study. Since students from abroad have left their parental home, the assumption that those students have trust in others than family and friends more than those who still live at their parent home was made. According to Scott and Cheraghi, those students have more networks. Therefore you would expect they make use of less instruments than those from Twente region. However, as can been seen in table 11, there is no significant difference between SEs from Twente region and SEs from abroad and the use of amount of instruments.

Despite research that men are 50% more likely to be involved in entrepreneurial activities than women and that there is no country where women are more active than men in terms of entrepreneurship, the results of this study claims there is no significant difference between gender and the use of entrepreneurial support instruments. Since male and female student entrepreneurs are both already doing entrepreneurial activities, you would expect there should be no reason male SEs make use of more instruments than female SEs. As said before, this is supported by the results. As can been derived from the outcomes of the chi-square test in table 12, male SEs are not more likely to use more instruments.

6.2 Limitations and directions for future research

Although none of the hypotheses are confirmed, there could be an alternative explanation for these results. As already mentioned in the method section, respondents had to indicate whether they knew about the existence of the certain instrument and whether they make use or had made use of it. This had to be done for all the twenty-one instruments. Yes or no could be answered. However, the instruments were not described in the survey; only the name of the instrument was given. It could be that the respondent did not know the name of the instrument, but in fact knew about the existence of it. Another limitation is that the SE had made use of the instrument once, but does not consider that as using the instrument.

Furthermore, another limitation of this report is that only twenty-two respondents were recruited. Of the twenty-two respondents there were only three female student entrepreneurs. Moreover, there were only two SEs who are in the early stage of the entrepreneurial process. Because of this limited sample size, not all the cell entries were greater than five. For the chi-square test to work, there should be minimal five entries per cell. If you deviate from this, the test works less well. Therefore, a suggestion for future research could be to expand the sample size to increase the reliability of the outcomes.

Additionally, the SEs' opinion about the instruments is only slightly investigated. However, this could be interesting information, since it tell us why they do or do not make use of the instruments. A suggestion for future research is to give more attention to this.

Finally, this study is only generalizable to Dutch reading participants because of the fact that the survey was only available in the Dutch language. Furthermore, this study is of course not generalizable for other universities, since the survey explicitly was meant for SEs from the University of Twente. However, a suggestion for future research is to conduct this study at other universities in the Netherlands.

7. APPENDIX

7.1 Cross tabulations

Table 3. Business SEs versus SEs from other programmes

(1)	Aware of # instruments						
Fa	*0*	*1*	*2*	*3*	*4*	*5*	**Tl**
Bs	2	2	3	1	1	0	9
O	4	2	2	2	1	3	14
Tl	6	4	5	3	2	3	23

(2)	Aware of # instruments					
Fa	*0*	*1*	*2*	*3*	*4*	**Tl**
Bs	2	1	2	0	4	9
O	2	0	4	4	4	14
Tl	4	1	6	4	8	23

(3)	Aware of # instruments				
Fa	*0*	*1*	*2*	*3*	**Tl**
Bs	3	3	2	1	9
O	5	5	1	3	14
Tl	8	8	3	4	23

(4)	Aware of # instruments				
Fa	*0*	*1*	*2*	*3*	**Tl**
Bs	2	2	4	1	9
O	8	2	1	3	14
Tl	10	4	5	4	23

(5)	Aware of # instruments							
Fa	*0*	*1*	*2*	*3*	*4*	*5*	*6*	**Tl**
Bs	1	1	3	2	0	2	0	9
O	2	2	1	2	3	2	2	14
Tl	3	3	4	4	3	4	2	23

Fa = Faculty Bs = Business students O = Other students Tl = Total

Table 4. SEs in the early stages versus SEs in the later stages (concept development support)

CD	Use of # instruments					
St	*0*	*1*	*2*	*3*	*4*	*5*
E	0	1	1	0	0	0
L	9	3	5	1	2	1
Tl	9	4	6	1	2	1
St	*6*	*7*	*8*	*9*	*10*	**Tl**
E	0	0	0	0	0	2
L	0	0	0	0	0	21
Tl	0	0	0	0	0	23

CD = Concept development St = Stage in the entrepreneurial process
E = Early stages L = Later stages Tl = total

Table 5. SEs in the early stages versus SEs in the later stages (business development support)

BD	**Use of # instruments**						
St	*0*	*1*	*2*	*3*	*4*	*5*	6
E	0	1	0	1	0	0	0
L	13	4	2	1	1	0	0
Tl	13	5	2	2	1	0	0
St	*7*	*8*	*9*	*10*	*11*	*12*	**Tl**
E	0	0	0	0	0	0	2
L	0	0	0	0	0	0	21
Tl	0	0	0	0	0	0	23

BD = Business development St = Stage in the entrepreneurial process
E = Early stages L = Later stages Tl = total

Table 6. SEs from Twente region versus SEs from abroad

(1)	**Use of # instruments**						
Rg	*0*	*1*	*2*	*3*	*4*	*5*	**Tl**
Tw	3	3	0	0	0	1	7
Ab	9	2	3	2	0	0	16
Tl	12	5	3	2	0	1	23

(2)	**Use of # instruments**					
Rg	*0*	*1*	*2*	*3*	*4*	**Tl**
Tw	5	2	0	0	0	7
Ab	12	3	1	0	0	16
Tl	17	5	1	0	0	23

(3)	**Use of # instruments**				
Rg	*0*	*1*	*2*	*3*	**Tl**
Tw	7	0	0	0	7
Ab	15	1	0	0	16
Tl	22	1	0	0	23

(4)	**Use of # instruments**				
Rg	*0*	*1*	*2*	*3*	**Tl**
Tw	7	0	0	0	7
Ab	14	2	0	0	16
Tl	21	2	0	0	23

(5)	**Use of # instruments**							
Rg	*0*	*1*	*2*	*3*	*4*	*5*	*6*	**Tl**
Tw	5	2	0	0	0	0	0	7
Ab	9	2	2	1	1	1	0	16
Tl	14	4	2	1	1	1	0	23

Rg = Region Tw = Twente Ab = Abroad Tl = Total

Table 7. Male SEs versus female SEs

(1)	Use of # instruments						
G	*0*	*1*	*2*	*3*	*4*	*5*	**Tl**
M	10	4	3	2	0	1	20
F	2	1	0	0	0	0	3
Tl	12	5	3	2	0	1	23

(2)	Use of # instruments					
G	*0*	*1*	*2*	*3*	*4*	**Tl**
M	15	5	0	0	0	20
F	2	1	0	0	0	3
Tl	17	6	0	0	0	23

(3)	Use of # instruments				
G	*0*	*1*	*2*	*3*	**Tl**
M	19	1	0	0	20
F	3	0	0	0	3
Tl	22	1	0	0	23

(4)	Use of # instruments				
G	*0*	*1*	*2*	*3*	**Tl**
M	18	2	0	0	20
F	3	0	0	0	3
Tl	21	2	0	0	23

(5)	Use of # instruments							
G	*0*	*1*	*2*	*3*	*4*	*5*	*6*	**Tl**
M	12	3	2	1	1	1	0	20
F	2	1	0	0	0	0	0	3
Tl	14	4	2	1	1	1	0	23

G = Gender *M = Male* *F = Female* *Tl = Total*

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