

Students' Attitudes and Intentions toward Entrepreneurship at Tallinn University of Technology

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Abstract

The objective of the current paper is to identify the students' attitudes and intentions toward entrepreneurship, their personal characteristics and future plans in connection with entrepreneurship. The results of the empirical study are brought to evaluate the preparation of bachelor programme graduates and master students from Tallinn University of Technology (different specialities) for starting with entrepreneurship. The Likert scale is used for measurement of students' attitudes based on their own opinions about motivations to start in business, the statements about their entrepreneurial characteristics and behavioural habits connected with business relations and organisations. In this context, the opinions of respondents about the obstacles met in starting a business and possible support needs are also a subject of this analysis, including the role of university to foster entrepreneurial initiative among students.

The research results showed that despite a considerable share of respondents thinking about entrepreneurship, most of them do not want to start business after graduation, but postpone this to a more distant future. Based on the students' previous thoughts about and connections with entrepreneurship, or their plans for the future, we can identify differences in the motives to start a business (e.g. ambition for freedom, self-realisation, and pushing factors), as well as in personal characteristics, skills to participate in business relations and behaviour in organisation. The personal characteristics and behaviour typical of entrepreneur are correlated positively with the intention to start a new venture in the near future. However, we can also find some exceptions and interesting connections based on the student's status, specialty (economic or technical specialities) and degree of study. The paper seeks to provide clarification so as to understand these differences, as well as suggestions for increasing

the role of universities in developing students' entrepreneurial behaviour and improving entrepreneurship policies in order to stimulate entrepreneurial initiative among students.

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1. Introduction

For generating economic growth and moving towards the entrepreneurial society it is imperative, in the opinion of economic theorists, to have a development of entrepreneurship capital, which reflects a number of different legal, institutional and social factors and forces, and involves also a social acceptance of entrepreneurial behaviour, individuals who are willing to deal with the risk of creating new firms and favourable business environment (Audretsch 2001). Hence, entrepreneurial initiative of individuals must be regarded as an important factor of economic growth, whereas a major role in working up attitudes towards life, raising enterprising people is played by educational system, which should be developing and propagating entrepreneurial initiative among students and graduates. A previous study (Kolbre et al. 2005) has confirmed a great potential in the form of university graduates for increasing entrepreneurial initiative at Tallinn University of Technology. However, the research showed that the students had knowledge for starting a business, but not so much motivation for starting a business. This result referred to a need to study more profoundly students' attitudes and intentions to start a business, their personality traits and contextual factors of business environment, including the role of university in supporting students' entrepreneurial attitudes and intentions.

Fostering entrepreneurship among students has become an important topic in universities and governments' as well as in research. As a number of studies show, student interest in entrepreneurship as a career choice is growing (Brenner et al. 1991, Fleming 1994, Kolvereid 1996), while interest in professional employment in businesses is declining (Kolvereid 1996). The positive role of universities in developing entrepreneurial intention and to explore the factors influencing entrepreneurial behaviour of students are confirmed by a number of studies (Autio et al. 1997, Duijn 2005, Fayolle et al. 2005, Gibb 1994, Hannan et al. 2004, Hannon 2005, Lüthje & Franke 2003, Reitan 1997) that help to explain the emergence of entrepreneurial intention among target groups as well as suggest the stimulation of entrepreneurship education that can influence the students' attitudes and intentions towards entrepreneurship.

Many previous studies have suggested certain personality traits as indispensable prerequisites for starting in entrepreneurship (e.g. McClland 1961, Hisrich and Peters 1989), or importance of different demographic characteristics (age, gender, origin, religion etc.) (Reinolds et al. 1994, Storey 1994). Literature provides a lot of definitions of the personality traits and analyses of the development of these definitions on the basis of various business researches (Landström 2004). Already in the 18th century, Cantillon defined entrepreneur as a maker of motivated decisions and bearer of risks, as one who undertakes to manage business ventures. Entrepreneur has been defined as an innovator (Schumpeter 1934), an entrepreneurial person (person of

initiative), an organiser and bearer of risk (Shapiro 1975). A personality trait discussed as relevant for an entrepreneur is also ability to see disbalance between demand and supply and focus one's entrepreneurial activity to changing this difference (Kirzner 1973). Newest literature has also characterised entrepreneur as a person who has great imagination, flexibility, creativeness and innovativeness; a person who is ready for conceptual thinking, who sees a change as an opportunity for business (see Richards 1999, Kao et al. 2002, Timmons 1997). Many authors are unanimous that entrepreneurs have boldness to risk, optimism to succeeding (e.g. Richards 1999), as well as a sufficient amount of self-assurance to start realising one's ideas, and ambition to independence (see e.g. Hisrich and Peters 1989). Enterprising spirit (e.g. dedication, commitment etc) has been described by J. Timmons (1994). Individual-level factors are assessed important in explaining who exploits entrepreneurial opportunities (S.Shane 2003).

Many authors today have challenged the previous understanding that entrepreneurship is a privilege only for a small group of selected people with specific personal characteristics. For example, S. Hougaard (2005) speaks of entrepreneurship in a so-called early stage (i.e. in a start-up phase) as a competency in a wider sense. Such an entrepreneurship concept is based on the viewpoint that in order to find business opportunity one needs creativity, ability to see and understand problems and find unanticipated (unexpected) solutions. Today it is increasingly supported that entrepreneurship can be learnt and that coincidence of circumstances largely determines who starts a new venture. Hence, basing only on personality traits sets kind of methodical limits to explaining entrepreneurial initiative, because though appropriate personal characteristics for acting as an entrepreneur can be developed, also other pushing factors (e.g. attitudes, intentions) and suitable environment and conditions for the actualisation of this are still relevant in the event of the existence of the potential.

Recent studies have emphasised the need for entrepreneurial attitude and intention as factors determining entrepreneurial behaviour (Ajzen 1991, Fayolle & Gailly 2005). These factors can be considerably influenced by entrepreneurship education (Fayolle et al. 2005, Hannan et al. 2004, Hannon 2005, Lüthje & Franke 2003, 2004).

Attitudes are defined by cognitive psychology as the predisposition to respond in a generally favourable or unfavourable manner with respect to the object of the attitude (Ajzen 1987). The attitudinal approach has been utilised in many fields including in evaluating entrepreneurship education. Thus, for increasing the level of entrepreneurial initiative among students it is needful to increase positive attitudes towards entrepreneurship, so attitudes can be viewed as the stepping stone to entrepreneurial intentions (Hannan 2004). There are numerous interconnections between attitudes and various interrelated objects. For example, Shepherd and Douglas (1997) examined people who are in the process of choosing between career alternatives and expect these attitudes are associated with the degree of intention to become an entrepreneur. These attitudes were those toward independence, financial risk, hard work and income. While 'positive' attitudes towards all four of these objects should be expected to generate an intention to undertake entrepreneurial activity, they argue that such positive attitudes are neither necessary nor sufficient conditions for entrepreneurial intentions (or behaviour). The individual will intend to become an entrepreneur only when the total satisfaction expected from the combination of independence, risk, hard work and income is higher for the entrepreneurial opportunity than it is for the best non-entrepreneurial option (Shepherd and Douglas 1997). As the intention of carrying out a

given behaviour will depend on the person's attitudes towards that behaviour (Ajzen 1991), therefore attitudes would measure the extent to which an individual values positively or negatively some behaviour (Linan 2004).

In recent researches, entrepreneurial intentions were assessed to be important to explain entrepreneurship and a number of intention models have been developed, including various variables. Most of the models of entrepreneurial intention focus on the pre-entrepreneurial event and make use of attitude and behaviour theory (Peterman and Kennedy 2003). The theory of planned behaviour (Ajzen 1991) posits that intention is an antecedent to behaviour; intentions are assumed to be the motivation to certain behaviour. Here, intention is determined by three things: their attitude toward the specific behaviour, their subjective norms and their perceived behavioural control. The theory of planned behaviour holds that only specific attitudes toward the behaviour in question can be expected to predict that behaviour. Entrepreneurial intentions are explained also as a variable within larger psychological model of factors influencing individual's intentions to start a new business (Davidsson 1995). The model "Entrepreneurial Event" explains the influence of desirability and feasibility on a business start-up (Shapero 1975). The importance of understanding the theory of self-efficacy in the entrepreneurial behaviour context is also stressed (Krueger et al. 2000). The self-efficacy theory explains what people's beliefs about their capabilities to produce effects are. The latest structural model of entrepreneurial intent by Lüthje & Franke (2003) explains how entrepreneurial intent is a direct result of the attitude towards entrepreneurship and the environment of contextual barriers and support factors. The authors include into their model two most important personality traits (risk taking propensity and internal locus of control) and recommend in their model also the important role of universities in the future.

Many researches have evaluated the importance of entrepreneurial competency in connection with successful start-up and survival in business (e.g. Bird 2002, Onstenk 2003). Emphasis from the standpoint of educational institutions has been laid on providing a possibility of developing personal entrepreneurial competency (Bird 2002). Many authors have expressed different opinions about the skills one needs so as to successfully use business opportunities (e.g. Hougaard 2005). It is important for the educational institutions to know which skills (competencies) should be developed in educating future entrepreneurs and enterprising people. In this context it is interesting to know what is Estonia's potential and what should entrepreneurship policies and educational programmes keep in mind to increase entrepreneurship competency.

A new entrepreneurship policy document in Estonia (2006-2013) is a step forward in the development of entrepreneurship and entrepreneurial initiative through a favourable entrepreneurship environment and appropriate support schemes. Entrepreneurship policy has established four purposes: strong enterprise culture, legal environment favourable for entrepreneurship, SMEs' access to finance and capability for SME growth and exports. Activities aimed at promoting entrepreneurship culture are needed to achieve three purposes: people are enterprising and want to become entrepreneurs; people have the skills and knowledge necessary for doing business; positive attitudes towards entrepreneurs and entrepreneurship in society (Eesti ettevõtluspoliitika...2006). Activities in the following spheres are undertaken to achieve the purposes: entrepreneurship education in schools; life-long learning of the entrepreneurs; raising the awareness of entrepreneurship and innovation throughout the society; developing the ability of enterprises to co-operate. Therefore the government tends to positively influence the image of entrepreneurship in the country; universities

and institutions on other educational levels have to implement these purposes. This research is an attempt to explain development aspects of students' entrepreneurship education.

Based on the above theoretical standpoints, explaining attitudes and intentions and their influence on the entrepreneurial behaviour, this paper profiles antecedents on business and non-business students' attitudes, motivation and intentions toward entrepreneurship, their personal characteristics and intentions to start with new venture depending on their current status and future plans in connection with entrepreneurship at Tallinn University of Technology. In this context, the opinions of respondents about the obstacles met in starting business and possible needs for support are also a subject of this analysis, including the role of university to foster entrepreneurial initiative among students.

The paper includes a description of data and methodology used for research and the results of the study in three subjects: students' attitudes and intentions towards entrepreneurship, characteristics of students' personality traits and obstacles and support needs for starting business. Finally the main results of study are concluded.

2. Data and Methodology

An empirical study was carried out among bachelor programme graduates and master students at Tallinn University of Technology in different specialities during two semesters (spring 2005 and 2006), after they finished a course in Business Administration. A total of 443 students were questioned, including three specialities: economics, logistics and technical specialities (e.g. mechanics, power engineering, information technology, chemistry; see Table 1). Students in economics and technical specialities are divided between bachelor and master's level, logistics students are mostly from bachelor level and only few of them were on master's level. In economics and logistics, women are dominating, but over half of the students in technical specialities are men. The age group of 20-25 years is well represented in all specialities, but in economics nearly 40% are older than 25 years of age.

Table 1. Distribution of Respondents by Speciality, Gender and Age

	Economics	Logistics	Technical specialities	Total
Bachelor study	41.7	90.1	54.2	60.0
Master study	58.3	9.9	45.8	40.0
Man	34.5	43.5	52.8	43.1
Women	65.5	56.5	47.2	56.9
20-25	61.3	96.9	86.8	80.1
26-30	24.4	2.3	6.9	12.2
Over 30	14.3	0.8	6.3	7.7

The questionnaire included direct questions about students' intention to start with business. The students' intention was measured by empirical evaluation as the number of individuals who would like to be an entrepreneur (i.e. intention, thinking or being in the process). The intention to be an entrepreneur was asked also in time perspective, e.g. in the near future or later. The attitudes of those who intended to start

with business are based on their own opinions on the motivations to start with business. In the questionnaire the questions about motivation were grouped into three, expressing the ambition for freedom, self-realisation and pushing factors.

The students were asked to express their opinion about personality traits and behavioural habits connected with business relations and behaviour in organisation. Methods of evaluation of entrepreneurial skills and personality traits are variable, ranging from questionnaires available on websites (Mentos...2005, Yours...2005) to sophisticated programmes that consultation firms offer as services both to individuals and to collectives of enterprises (DISC... 2005). In this research we have used the questionnaire of the Estonian Institute of Economic Research for evaluating students' personality traits, which enables to compare results of the students' survey to population survey results (Entrepreneurial initiative... 2004). The respondents were asked to evaluate a total of 20 statements of personality traits that characterise entrepreneurial initiative. These include diligence, self-assurance, determination, creativity, ambition of achievement, discerning, risk tolerance, coping with failure and ability to plan. The students' opinions in the value scale characterise how much their personality traits approach to or diverge from the characteristics of an entrepreneur and what is the difference between target groups and respondents' attitudes and intentions to be an entrepreneur.

The Likert scale is used for the measurement of students' attitudes and intentions based on their own opinions. Opinions are expressed in a 5-point scale (1- completely agree, 2- rather agree, 3- both, this and that, 4- rather not agree, 5- not at all agree). The smaller the average estimate, the more likely is that the respondent has this trait.

The opinions of respondents about the obstacles met in starting a business and possible need for support are also a subject of analysis, including the role of university to foster entrepreneurial initiative among students. For that we asked the respondents to list in order of importance the factors that inhibit starting a business. We asked also what kind of support the respondents think would be most helpful for starting a business and whether they were aware of the state support measures available in Estonia and have used them. About university we asked to answer whether the specialty they learned has motivated them and helps to start a business. We also asked which subjects they learned in university that have helped to start in business and what knowledge they still want to learn that would encourage to start a business. The last questions help to evaluate students' awareness of entrepreneurship policies and suggest how to improve educational programmes.

3. Students' Attitudes and Intentions towards Entrepreneurship

For defining the overall entrepreneurial activity of students we asked them whether or not they had recently set up a business or were at the time of the survey setting up a business, or whether they are thinking to be an entrepreneur. The answers show that a majority of students have an intention to be active in entrepreneurship – 61% of the respondents have thought about starting their own enterprise and 13% were actually starting an enterprise at the time of questioning (Table 2) or they already had their own enterprise (6% of the respondents). Nearly one fifth of the students (respondents) had no intention to be an entrepreneur, nearly 4% had abandoned the thought of starting a business and 1% had been entrepreneurs before, but not any more. Compared with the

Estonian population survey in the same subject, students have very positive attitudes toward entrepreneurship, while 29% of all Estonian population would prefer to work as entrepreneurs, which is also much lower than in the European Union on average (47%) (EOS Gallup 2003).

If to sum up those who were thinking of starting a business and those who were actually doing this at the time of the survey, then more optimistic about entrepreneurship were bachelor students, men and students aged 20-25 and over 30. A stronger attitude and intension was shown by students of economics and logistics; they were more willing to start a business in the short term (16-23% of the respondents). Students in technical specialities are less frequently ready to be an entrepreneur in the near future (after graduation) and many of them (38%) were not sure at the time of questioning whether they wish be an entrepreneur in the future at all. To sum up, only 17% of all respondents were planning to start a business in the short term; most of the respondents postponed it to a more distant future. Hence, many students are not ready to start in business immediately after graduation, although many of them have a positive attitude toward entrepreneurship. There may be many reasons that could be connected with both personality traits and business environment, which we will analyse below.

Table 2. Intention of Students to Start with Business by Different Target Groups, % of Respondents

	Never thought to start	Thinking to start with business	Starting or already having an enterprise	Thought and owned, but gave up
Economics	16.7	59.5	14.3	9.5
Logistics	12.2	68.7	15.3	3.8
Technical specialities	29.2	56.9	9.7	4.2
Level of studies: Bachelor level	18.0	64.3	12.4	5.3
Master level	21.5	57.1	14.1	7.3
Men	9.9	64.9	20.9	4.2
Women	26.6	58.7	7.1	7.5
20-25 years old	19.4	63.9	11.5	5.1
26-30 years old	18.5	53.7	13.0	14.8
Over 30 years old	20.6	47.1	29.4	2.9
Intention to start in near future	1.2	14.7	64.0	8.0
Intention to start during 2 years	2.4	23.9	12.0	16.0
Intention to start in distant future	24.1	43.0	6.0	32.0
Don't know	72.3	18.4	18.0	44.0

The attitudes of students toward entrepreneurship are assessed through analysing the motivations of students to start with business, whereas theoretically a positive attitude toward entrepreneurship should be a precondition in the generation of intention of students to be an entrepreneur. The questions about motivation in the questionnaire were divided into three groups expressing: ambition for freedom, self-realisation and pushing factors. In general, stronger opinions about all motivation factors were expressed by those students who expressed intention to start with business

by doing this already or were just thinking about it at the time of the questioning. All those who had never given a thought to starting a business had a lower opinion about motivations (Table 3). Across specialities, the ambition for freedom and self-realisation are evaluated to be more important by economics and logistics students; students in technical specialities stand out by strong motivation to implement new ideas and technological innovations. Pushing factors are stronger among students from logistics and technical specialities. More motivated to start in business are bachelor students and men. This opinion may have been influenced by the fact that most of the master's degree students are working in parallel to studying at university and they are not willing to give up the safe job related security and income. The main motives for younger age groups (20-25) are self-realisation and good earning possibilities, for older (over 30) – ambition for freedom.

Table 3. Motives of Students and Their Intentions to Start with Business (mean)

	Never thought to start	Thinking to start with business	Starting or already having an enterprise	Thought and owned, but gave up	Total
Ambition for freedom					
More freedom of activity	1.81	1.48	1.33	1.40	1.52
Be one's own master	2.14	1.65	1.46	1.79	1.72
Be more respected in my firm	2.83	2.39	2.41	2.68	2.49
Be in the vanguard of technological ideas	2.64	2.47	2.35	2.71	2.50
I want to develop my hobby in business	2.08	1.94	1.94	2.00	1.97
Self-realisation					
I wanted to gain a better position in society	2.27	1.85	1.72	1.96	1.92
I wanted to put myself to the test	1.95	1.59	1.65	1.84	1.68
I want to command and motivate others	2.49	1.84	1.93	2.39	2.00
I want to continue family traditions	3.46	3.21	3.09	3.41	3.25
I want to implement an idea or innovation	2.04	1.69	1.46	1.96	1.74
I want to follow someone's example	2.68	2.67	2.63	2.67	2.66
Pushing factors					
I want to earn good income	1.71	1.46	1.51	1.65	1.53
I was not satisfied with my work	3.26	2.98	2.95	2.78	3.02
If I lost my job, I would become an entrepreneur	2.70	2.35	1.92	2.24	2.35

Note: Students' opinions are expressed in a 5-point scale (1- completely agree, 2-rather agree, 3- both this and that, 4 -rather not agree, 5 - not at all agree), additionally the answer "cannot say"

The five most important single motives for starting a business can be ranked on the basis of opinions expressed by all respondents as follows: I want more freedom of activity (1.52); I want to earn good income (1.53); I have always wanted to be my own

master (1.72); I want to put myself to test (1.68); I want to gain a better position in society (1.92). Hence, strongly represented in the respondents' opinions is the ambition for freedom followed by the intention for self-realisation and the strongest pushing factor is connected with searching for opportunities to earn better income. The latter, being the second important motive for starting a business, may be also influenced by the growing cost of living in the country and lower income earned for wage labour, i.e. Estonia being among the group of lower income countries.

The opinions of the respondents about attitudes toward starting with entrepreneurship correlated very clearly with the respondents' intention to start with business in a time perspective (Table 4). Those who rated highly the motivations intend to start with business in the near future, compared with those with lower motivations who were thinking to postpone the starting with business into a distant future. Next we examine how students' personality traits and behavioural habits influence the intention to start with business.

Table 4. Motives of Students for Starting with Businesses Depend on Their Plans in Time Perspective (mean)

	Students' plans to start with business in time perspective				
	In the near future	During 2 years	In distant future	Don't know	Total
Ambition for freedom					
More freedom of activity	1.26	1.38	1.54	1.73	1.52
Be one's own master	1.32	1.51	1.77	2.03	1.72
Be more respected in my firm	2.29	2.29	2.51	2.74	2.49
Be in the vanguard of technological ideas	2.31	2.38	2.59	2.55	2.49
I want to develop my hobby in business	1.96	1.90	1.98	2.02	1.97
Self-realisation					
I want to implement an idea or innovation	1.47	1.63	1.75	1.98	1.74
I wanted to gain a better position in society	1.66	1.68	1.95	2.17	1.91
I wanted to put myself to the test	1.45	1.55	1.71	1.88	1.68
I want to command and motivate others	1.71	1.72	1.92	2.44	2.00
I want to continue family traditions	3.14	2.93	3.31	3.41	3.25
I want to follow someone's example	2.84	2.46	2.57	2.78	2.66
Pushing factors					
If I lost my job, I would become an entrepreneur	2.03	2.11	2.48	2.60	2.35
I want to earn good income	1.36	1.44	1.53	1.67	1.52
I was not satisfied with my work	2.82	2.86	3.08	3.18	3.02

Note: Students' opinions are expressed in a 5-point scale (1- completely agree, 2 - rather agree, 3 -both this and that, 4 - rather not agree, 5 -not at all agree), additionally the answer "cannot say"

4. Characteristics of Students' Personality Traits, Behaviour in Business Relations and in Organisation

In order to find out whether or not and in which way the entrepreneurs differ from each other, the respondents were asked to evaluate the statements of personality traits that characterise the entrepreneurial behaviour and habits. The statements are divided into four groups: personality traits, business relations, behaviour in organisation and some other characteristics. In general, as a result of the survey the highest value was attached by respondents to four personal characteristics: ambition of achievement, determination, self-confidence and persistence (Table 5). Additionally we can mention the importance of good health and energy, and control point. The latter is emphasising the importance of influencing one's own career rather than adaptation to the situation. The ability of determination, sociality and cooperativeness should be mentioned also as personal characteristics of students. Therefore, the respondents have valued a number of important personality traits that are common for entrepreneurial people (e.g. ambition of achievement, self-confidence, sociality, cooperativeness etc).

Depending on the intention of the respondent to start with business (whether she/he has no intention, was thinking about starting a business or was in an active start-up process) at the time of the questioning, it is possible to find differences in the valuation by respondents of the personal characteristics and behavioural habits. For example, students with no intention to deal with entrepreneurship have valued the lowest the statements characterising personality traits common for entrepreneurial people. The same applies to those who have given up the thought to be an entrepreneur or who have finished with business. Interestingly, rather low value is attached to personality traits also by those who have started with business more than three years ago, but the share of this group in total number of respondents is rather low (6%) and may not be representative.

Depending on the growing intention to start with own business (e.g. those who are thinking about it, in the start-up process, or have already started during the last three years), the ranking of the personality traits on the value scale is also rising. Hence a conclusion that in general students who are more enterprising by personality traits also have a stronger intention to be an entrepreneur.

We reach a similar conclusion when we examine connections between the respondents' personality traits and their intentions to start with business in a time perspective. To sum up, those who intend to start with business in the near future can be characterised by valuation of more enterprising personality traits (Table 6). At the same time, lower valued personality traits characterised the group of students who were thinking about starting business in a distant future. The estimates of the latter target group vary between 1.34 and 2.49 (if to exclude marginal values) in a 5-point scale, which otherwise are not so low (the estimates of the first group were between 1.30 and 2.25), but the respondents of this group do not have the intention to start business. Here we should give a thought whether the knowledge provided at the university and the methods of teaching these knowledge are suitable and adequate to develop entrepreneurial behaviour in students and create in them intention to undertake entrepreneurial activity.

Table 5. Opinions Expressed by Students about Personality Traits and Other Characteristics and Their Intentions to Start with Business (mean)

Personality traits and other characteristics		Never thought about starting	Thinking to start	I have thought, but gave up	In starting process	Started during last 3 years	Started more than 3 years ago	Was an entrepreneur, not any more
Personality traits								
Likes hard working	Diligence	2.15	2.03	2.47	2.11	2.00	1.86	2.50
I have faith in myself and confidence	Self-confidence	2.01	1.85	2.14	1.73	1.21	2.14	2.25
I always carry into effect what I have intended	Determination	1.91	1.88	2.27	2.20	1.68	2.43	2.00
I know what I want and act to that end		2.22	1.87	1.86	1.76	1.42	1.86	1.75
I am never short of ideas and dreams	Creativity	2.49	1.96	2.27	1.93	2.05	2.29	3.25
I want to be successful	Ambition of achievement	1.84	1.29	1.47	1.46	1.16	2.29	2.00
I can take decisions and stand for them	Discerning	2.11	1.66	2.33	1.57	1.53	2.29	2.00
I like challenges that many think are risky	Risk tolerance	2.83	2.26	2.73	2.04	1.89	2.57	2.50
Failures do not upset me but give reason to try again	Coping with failure	2.73	2.38	2.67	2.37	2.26	2.67	3.25
I can plan my activities a long time ahead	Ability to plan	2.41	2.27	2.29	2.41	1.89	2.00	2.50
Business relations								
I am a sociable person and love to associate	Sociality	2.18	1.86	2.07	1.83	1.84	3.00	2.00
I am regarded as a good negotiating and selling person	Negotiating and selling skills	2.76	2.39	2.46	2.21	2.05	2.71	3.00
I am willing to co-operate with different people	Cooperative-ness	2.14	1.82	1.86	1.87	1.95	2.29	1.75

Personality traits and other characteristics		Never thought about starting	Thinking to start	I have thought, but gave up	In starting process	Started during last 3 years	Started more than 3 years ago	Was an entrepreneur, not any more
Behaviour in organisation								
My opinions have weight and my advice is asked often	Traits of a leader	2.42	2.22	2.46	2.40	1.79	2.86	2.50
I have good convincing skills and can inspire others	Convincing and motivating skills	2.49	2.18	2.64	2.07	1.89	2.14	2.33
Organising something is not difficult for me, I am initiator	Organising ability	2.99	2.26	2.40	2.13	1.84	2.67	2.50
I can deal with several things simultaneously	Doing several things simultaneously	2.34	2.00	2.53	2.00	1.84	2.57	2.50
Other								
I am not afraid of being in debt	Debts	3.28	2.85	3.07	2.82	2.42	2.71	3.25
I am in good health and I have a lot of energy	Good health	2.14	1.81	2.27	1.77	1.89	2.71	2.50
I think it important to influence my own career rather than adapt to the situation	Control point	2.38	1.80	2.21	1.38	1.58	2.57	3.00

Note: Opinions are expressed in a 5-point scale (1- completely agree, 2 - rather agree, 3 - both this and that, 4 - rather not agree, 5 - not at all agree), additionally the answer "cannot say", not included into mean

5. Obstacles to and Support Needs in Starting a New Venture

For summarising the factors that inhibit starting a business we have examined primarily the top three factors (by all respondents). As a result, over half of the respondents (53% of all respondents) mentioned lack of a business idea as an obstacle. The second important obstacle is insufficient knowledge and skills (40%). Both of these factors are a major problem to students who have not thought of starting a business or are in an early stage of starting (those who were thinking of starting a business). The third important obstacle is the possibility of failure (39%). This reason was estimated to be more important by respondents who at the time of the survey were starting a business or already had started a business. More frequently mentioned obstacles are also fear of losing the present job related security and income from the present job, fear of falling into debt. Previous studies have also indicated fear of risk among students (e.g. Venesaar et al. 2006), which may be caused by insufficient knowledge about entrepreneurship, starting a business, evaluation skills of business opportunities, or other relevant knowledge, which many respondents admitted to be a major obstacle to starting a business.

When we asked the students what kind of support would be most helpful for starting a business, they considered the most important entrepreneurship advice in the first year of start-up (mean 1.76), training in taxation and accounting (1.82) and information on relevant procedures for starting a business and on enterprise support (1.84). The latter opinion indicates that students are not aware of the measures offered by the entrepreneurship support system, although support to start-up enterprises in finding information and explaining procedures is the most wide-spread service in Estonian entrepreneurship policy and there is also a website with various information a start-up entrepreneur might need, but many students do not know what this website contains. The need for the above support measures was estimated to be the biggest by the respondents who were thinking of starting a business and were planning to do that in a more distant future. This also explains their insufficient knowledge about and maybe also interest in this kind of information. But as these support measures were considered more important than other services (e.g. help in preparing a business plan, finding a suitable rental space, establishment of an entrepreneurs' club) also by those who at the time of the survey were starting their own business or had set up a business before, then this indicates already kind of deficiencies in rendering these services. During the implementation of entrepreneurship policies the spread of information should be improved and services should reach the potential entrepreneurs (Eesti ettevõtluspoliitika... 2006).

The questions how well students know the state support measures were answered by 28% of the respondents that they were well aware of the measures, but only 3% had used these services; 66% had heard something and 6% had heard nothing about these measures. Hence, though students have heard a little, their knowledge may be not very thorough. Though the proportion of users of the support measures was small, the most frequently used measures were training and advice, and start-up aid to businesses. Less used were loan grants and export plan programmes.

The role of university in developing entrepreneurial behaviour has been evaluated in this research on the basis of students' own opinions. The impact of the programmes and knowledge obtained on starting a firm indicated that what one has learned in business administration specialities helps most of the respondents (75%) to

Table 6. Opinions Expressed by Students about Personality Traits and Other Entrepreneurial Characteristics Depending on Their Plans in Time Perspective (mean)

Personality traits and other characteristics	Students' plans to start with business				
	In near future	During 2 years	In distant future	Don't know	Total
Personality traits					
Likes hard working	2.06	2.03	1.90	2.26	2.06
I have faith in myself and confidence	1.63	1.73	1.94	2.01	1.87
I always carry into effect what I have intended	1.99	1.74	1.94	1.99	1.93
I know what I want and act to that end	1.68	1.74	1.96	2.10	1.92
I am never short of ideas and dreams	1.79	2.04	1.99	2.46	2.10
I want to be successful	1.30	1.22	1.34	1.70	1.42
I can take decisions and stand for them	1.56	1.55	1.80	2.02	1.78
I like challenges that many think are risky	1.91	2.00	2.44	2.72	2.35
Failures do not upset me but give reason to try again	2.08	2.21	2.48	2.85	2.46
I can plan my activities a long time ahead	2.25	2.14	2.30	2.43	2.30
Business relations					
I am a sociable person and love to associate	1.72	2.01	1.85	2.16	1.95
I am regarded as a good negotiating and selling person	2.13	2.30	2.39	2.77	2.45
I am willing to co-operate with different people	1.77	1.86	1.79	2.12	1.90
Behaviour in organisation					
My opinions have weight and my advice is asked often	2.11	2.19	2.31	2.37	2.28
I have good convincing skills and can inspire others	1.91	2.20	2.21	2.46	2.23
Organising something is not difficult for me, I am initiator	2.04	2.22	2.22	2.87	2.38
I can deal with several things simultaneously	1.89	1.89	2.03	2.38	2.09
Other					
I am not afraid of being in debt	2.53	2.73	2.93	3.25	2.92
I am in good health and I have a lot of energy	1.82	1.76	1.92	2.01	1.90
I think it important to influence my own career rather than adapt to the situation	1.51	1.75	1.89	2.20	1.88

start their own business. Over half of the respondents (57%) answered that going through the curriculum has motivated them to start in business. Business administration students find more often than the students from non-business specialities that the knowledge obtained during studies help most to start a business. Students from technical specialities were more moderate about this, which may be due to the fact that economic subjects are too few in technical curricula, mainly macro- and microeconomics and business administration.

The subjects that provide knowledge for starting a business are in the opinion of students of economics and logistics as follows: entrepreneurship, various subjects of marketing, business communication, administration, economic accounting, financial accounting and logistics. The knowledge that students want to learn more about, which encourage to develop one's firm, are business planning, business law, application of accounting programmes and foreign languages. For comparison, the results of a population poll on entrepreneurial initiative of Estonian people also indicated a need to improve oneself in making a business plan, setting up an enterprise, management, accounting and marketing. The inhabitants interviewed felt a shortage of communication and problem settlement skills (Entrepreneurial... 2004). In addition to these, all graduates surveyed emphasise insufficient amount of practical studies and lack of experience, and the ensuing lack of confidence for starting a business. They wish to know better the practical procedure of setting up a firm. These insecurities are typical of bachelor degree graduates, as the share of special studies that provide deeper knowledge and skills is small at this level. All respondents need entrepreneurship advice in the first year of start-up. Hence, as the research suggested, in order to develop entrepreneurial behaviour of students it is necessary to improve curricula with subjects that support the development of entrepreneurial traits, attitudes and intention to start with business.

6. Conclusions

The study was focused on identifying the attitudes and intentions of students at Tallinn University of Technology to start with business, their personality traits and contextual factors of business environment, including the role of university in supporting students' entrepreneurial attitudes and intentions. The research results showed that despite the considerable share of respondents thinking about starting a business, most of them do not want to undertake entrepreneurial activity after graduation, but postpone this to a more distant future. There could be various reasons that may be connected with personality traits, entrepreneurship knowledge and skills, and business environment problems.

The attitudes of students toward entrepreneurship are assessed through analysing their motivations to start with business. Strongly represented in the respondents' opinions was ambition for freedom followed by intention for self-realisation and the strongest pushing factor is connected with searching for opportunity to earn better income. Though different target groups valued their motivation to entrepreneurship differently, the respondents' attitudes towards entrepreneurship correlated very clearly with their intentions to start with business in a time perspective. Those who attached higher importance to motivation factors intend to start with business in the near future, but students with lower motivations were thought to postpone the starting with business into distant future.

The respondents have valued highly a number of important personality traits common for entrepreneurs (e.g. ambition of achievement, self-confidence, sociality etc). The personal characteristics and behaviour typical of entrepreneur are correlated positively with the intention to start a new venture in the near future. As the intention to start with own business increases (e.g. those who are thinking about it, those in the start-up process, or who have already started during the last three years), the values of the personality traits on the scale are also rising. Hence a conclusion can be drawn that as a rule students who are more entrepreneurial by personality traits, have also a stronger intention to be an entrepreneur, and they are most frequently intended to start with business in the near future. However, we can also find some exceptions and interesting connections based on the student's status, specialty (economic or technical specialities) and degree of study.

As business environment should support creation of enterprises, we learn from students' opinions about contextual factors: perceived obstacles and support needs, including the role of university. The most frequently mentioned obstacles to starting business were lack of business idea and insufficient knowledge and skills. The third important obstacle mentioned by respondents was fear of risk, which may be caused by insufficient knowledge about entrepreneurship, starting a business, evaluation skills of business opportunities or other needful knowledge. Students are not aware of entrepreneurship support measures offered by the entrepreneurship support system either. Though students gave a positive opinion to the role of university in development of motivation to start with business, they need more knowledge in business planning, business law, application of accounting programmes and foreign languages, as well as advice from specialists in the process of starting business.

Therefore the results of study suggest a need for increasing the role of universities in developing students' entrepreneurial behaviour, providing them with knowledge on entrepreneurship, generation of a business idea, searching for and evaluation of business opportunities, as well as practical knowledge about the process of starting a business. The subjects offered and methods of teaching at the university should develop the students' personality traits and skills, to develop their attitudes and intentions toward entrepreneurial behaviour. The other side is connected with the improvement of entrepreneurship policies by the government in order to stimulate entrepreneurial initiative among students. Promotion of entrepreneurship can be facilitated by measures and activities aimed at increasing entrepreneurial initiative among students on different levels of education.

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