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SME creation facilitation process at Universities

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SME creation facilitation process at Universities

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Topic: Other

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Abstract Much research on SMEs is aimed at researching SMEs after the fact that they have become SMEs. However all SMEs as well as larger companies start as an idea in the head or heads of one or many persons - the prospective entrepreneurs. The purpose of this paper is to investigate how SMEs can be created by transforming ideas into real companies. More specifically we will investigate if and how Universities can facilitate this process by running international cross-functional courses.

Our hypothesis is that in order to create a SME three topics are of pivotal importance:

- Specialist Competence in the business area
- General management competence
- Financial capital

During the fall of 2012 we will test the hypothesis by running a university course called international Market Driven Engineering (iMDE) in cooperation between Lund University and Zhejiang University. Technology faculties from both Universities are involved – students as well as teachers. Their participation is crucial to cover specialist competence in the business area – technology-based enterprises. Management faculties from both Universities are involved – students as well as teachers. Their participation is crucial to cover general management competence in setting up, funding and running an enterprise. When it comes to financial capital our hypothesis is that for clever business ideas, financial capital can be raised in order to industrialize such a business idea.

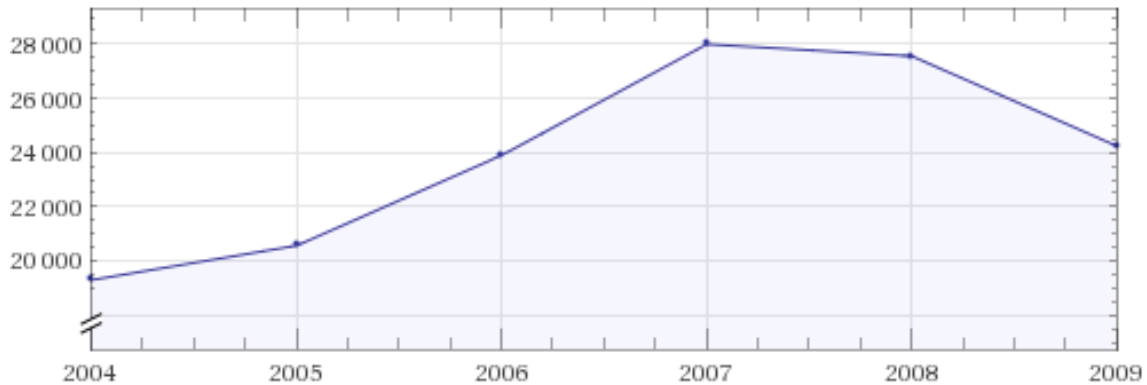
In the first trial run 8 business ideas will be generated and tested in the Hangzhou area during the period 120910-121019. Each of the 8 teams will consist of 8 persons – blended to cross-fertilize engineering-business, Chinese-Swedish and male-female participants. With the support of university teachers with the same blend the aim is to create embryos of SME's.

Key words Entrepreneur, Entrepreneurship, Innovation, Business plan, Prototype, Technology Management, Lund University, Zhejiang University.

Introduction

All Small and Medium sized Enterprises (SMEs) as well as larger companies start as an idea in the head or heads of one or many persons - the prospective entrepreneurs. Estimates show that there are 20.000-28.000 startups every year in Sweden. (<http://data.worldbank.org> presented by <http://www.wolframalpha.com>) The corresponding data for Chinese companies is not available, however it is safe to assume that the absolute number of startups in China is substantially larger than in Sweden. If we assume that the number of Chinese startups is in the range of 20% -200% of the number of Swedish startups per capita we can expect Chinese startups in the range of circa 600.000 – 8.3M startups (iPhone app World fact book: China 1.338.612.968 July 2009 est., Sweden 9.059.651 July 2009 est.).

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(from 2004 to 2009) (in per year)

Figure 1. Startups in Sweden 2004-2009.

(<http://www.wolframalpha.com/input/?i=Sweden+new+businesses+registered>)

1) Hypothesis

The purpose of this paper is to investigate how SMEs can be created by transforming ideas into real companies. More specifically we will investigate if and how Universities can facilitate this process by running international cross-functional courses.

Our hypothesis is that in order to create a SME three topics are of pivotal importance:

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2) Hypothesis testing – course setup

a. Background

The world is becoming more international and cutting edge knowledge in marketing as well as engineering in a global world is becoming a valuable asset on the job-market. There is a lack of people with skills in both fields with the ability to connect market needs with innovations and product development, especially in an international context. This may be due to that Universities are designed, organized, managed and administrated based on departmentalization. (Johnsson and Nilsson, 2006). Furthermore the focus of a department is becoming more and more narrow over time. Specializations are divided into sub specializations that in turn are further divided. “Systems rarely combine campus-based research institutions into a single functioning university entity although a few systems share some academic units across several institutions.” (Lombardi, 2002, p. 3) “We use the term ‘system’ to apply to governance organizations of many types that collect these university campuses into organizational and managerial constructs of greater or lesser complexity and integration.” (Ibid). As a consequence there is a shortage of university educations for jobs requiring competences from several disciplines.

International Market Driving Engineering (iMDE) is a course that is developed and run jointly between Lund University in Sweden and Zhejiang University in China, and it is aimed at providing such competencies. With competence we mean knowledge, skills and motivation. (Eneroth, 1997).

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In the academic core, the faculty guilds control teaching and research quality

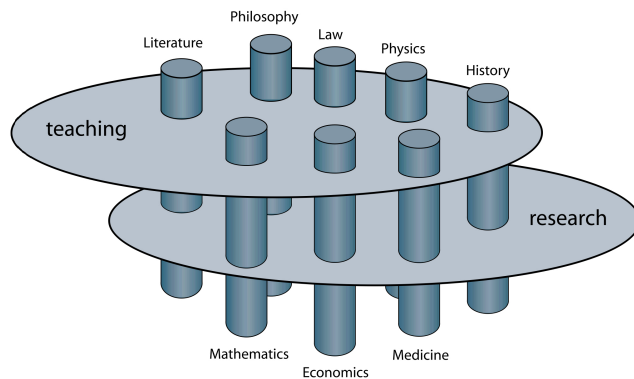


Figure 2 University Departmentalization, Lombardi et al 2002.

b. Lund University and Zhejiang University

Lund University (LU) was founded in 1666. The ultimate goals for Lund University in Sweden, as of most universities in Sweden and around the world, are to perform research, to assure education and to interact with the society outside university. Two of the university's top four (4) strategic goals are internationalization and cross-disciplinary teaching. LU consists of 9 faculties with a total of approximately 39 000 students. The Faculty of Engineering (LTH) and the School of Economy and Management (LUSEM) are two of its largest faculties with about 5000 students each.



Figure 3. Lund University's and Zhejiang University's logotypes.

Zhejiang University (ZJU) founded in 1897 is a university in People's Republic of China, ZJU is located in the city of Hangzhou in the Zhejiang province, about 180 km southwest of Shanghai. About 45 000 students are enrolled at Zhejiang university with Schools and Departments in several disciplines. The management discipline is taken care of by School of Management (SoM). The engineering/technical discipline is taken care of by a number of departments e.g. Department of Industrial Design and Institute of Control Science and Engineering.

c. iMDE

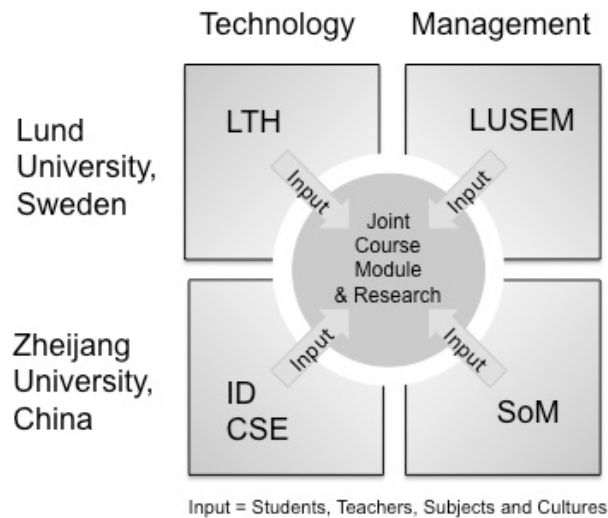
Lund University and Zhejiang University have agreements regarding collaborations about Innovations. For instance the Joint Centre for Innovation and Entrepreneurship (LU-ZJU JCIE) has been started. The course International Market-Driven Engineering (iMDE) is a joint course collaboration developed within the framework of LU-ZJU JCIE.

The involved parties in this course are:

1. LUSEM: School of Economics and Management, Lund University, Sweden
2. LTH: Faculty of Engineering, Lund University, Sweden

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3. SoM: School of Management, Zhejiang University, China
4. ID and CSE: Engineering, Industrial Design (ID) and Department of Control Science and Engineering (CSE), Zhejiang University, China



The iMDE-course aims at making it possible to intertwine the two disciplines Technology and Management, in Sweden and in China, in four ways; Students, Teachers, Subjects and Cultures.

- Subject: the focus in the joint course will be on Innovation and Product Development, a subject that is of great relevance from both the technical aspect as well as the economical and management aspect. The course module, in which the students will encounter the collaboration model, is referred to as "international Market driven Engineering (iMDE)". The course will contain both lectures and a project.
- Students: The course should be given to the 40 Swedish students from the Technology Management (20 from LUSEM and 20 from LTH) together with approximately 40 Chinese students (20 from SoM and 20 from the technical departments (ID and CSE)).
- Teachers: Teachers from both Sweden and China and from both Engineering (LTH, ID and CSE) and Management (LUSEM and SoM) will be involved in the lectures. A minimum of two teachers with different aspects of the subject matter will be present at each lecture.
- Cultures: The cultural aspects of project management and business behavior will be treated in the course and practiced in real life through the course project.

With this course set up will assure the two parameter in the hypothesis are met, namely that we have (1) Specialist Competence in the business area and (2) General management competence.

b) Course Curriculum

The course period is 120910 to 121019 which is six weeks of which one is Chinese holiday and consists of a set of:

- 10 lectures
- 2 company visits
- 3 coaching sessions
- 8 project groups with 8 students.

The schedule of the course is seen in the figure below.

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<i>Date</i>	<i>Lecture</i>	<i>Time</i>	<i>Content</i>
10/9	L1	13-16	Introduction
12/9	L2	9-12	Innovation-Inspiration
14/9	Coaching	9-12	1 hour coaching per group
17/9	L3	9-12	Innovation-Ideation
19/9	Company visit	Afternoon	Alipay
21/9	L4	9-12	Innovation-Implementation
24/9	L5	9-12	Innovation-Climates and Examples
26/9	Coaching	9-12	1 hour coaching per group
28/9	L6	9-12	Business plans
1-5/10			Chinese Holiday
8/10	L7	9-12	Product Development and Production
10/10	Company visit	Afternoon	Supcon
12/10	L8	9-12	Marketing and Sales
15/10	Coaching	9-12	1 hour coaching per group
17/10	L9	9-13	Final presentations
19/10	L10	9-13	Final presentations. End of course

3) Projects and Project groups

The project is centered on a theme, this year the theme is “Helping every day life”. The students’ goal is to generate an innovation, make a business plan and a functioning prototype. They are also continuously documenting their work-process by filming activities along the way. At the end of the project, each group delivers a prototype, a written report, an oral presentation and a film. The film “Our work-process from Empty-mind to Prototype” is part of the oral presentation. The written report contains information about the prototype from the three perspectives:

- Desirability (is there a need for it?),
- Viability (make a business plan for it) and
- Feasibility (is it possible to make from a technical point of view).

The students will work in cross-disciplinary international teams of 8-10 persons.

4) Potential SMEs

Depending of the future potential of each of the projects developed during the course the students can agree to continue their projects after the course. During similar courses in Sweden, RBL (Reality Based Learning) has been used as pedagogic tool to spur an interest in commercialization of innovations during business studies. (Knutsson, Tomasson, Nilsson, 2010). The projects that will be presented in the first iMDE course is close to being finalized at the time of this conference and we plan to present some of the

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projects during the WLICSMB conference.

5) Evaluation

The primary aim of the course is competence development among the students in the areas of innovation, product development, business planning and marketing. Our belief is that these competencies will increase the capability of our students to initiate SMEs. Initiating SMEs is a secondary goal and may not be possible to measure until a number of classes have taken the course. On the other hand it may also be possible already during this first year of the course to detect ideas that may mature into SMEs. If one or more of the eight projects can attract financial capital for further development we will have a strong indication to support our hypothesis that three topics can be of pivotal importance to create a SME:

- Specialist Competence in the business area
- General management competence
- Financial capital.

6) Conclusion

As soon as we can detect an actual financial interest in one or more of the projects from investors, we have strong evidence for the conclusion that Universities actually can facilitate the process of creating SMEs by running international cross-functional courses. iMDE, Technology Management and the cooperation between Lund University and Zhejiang University can serve as a role model for creating more cross-functional international collaboration at Universities in Sweden as well as in China.

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