Entrepreneurship, SMEs and Local Development

OECD Reviews on Skills and Competences for Entrepreneurship

PROMOTING GRADUATE ENTREPRENEURSHIP IN TUNISIAN UNIVERSITIES

OECD

LEED

BUILDING MORE & BETTER JOBS

A REPORT BY THE OECD
LOCAL ECONOMIC AND EMPLOYMENT DEVELOPMENT (LEED) PROGRAMME

ENTREPRENEURSHIP, SMEs AND LOCAL DEVELOPMENT

OECD REVIEWS ON SKILLS AND COMPETENCES FOR ENTREPRENEURSHIP

PROMOTING GRADUATE ENTREPRENEURSHIP IN TUNISIAN UNIVERSITIES

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

The OECD is a unique forum where governments work together to address the economic, social and governance challenges of globalisation as well as to exploit its opportunities (www.oecd.org/about). The Organisation provides a setting where governments can compare policy experiences, seek answers to common problems, identify good practice and co-ordinate domestic and international policies.

The OECD member countries are: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Korea, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, the Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom and the United States. The European Commission takes part in the work of the OECD.

FOREWORD

Tunisia is in the course of a critical transition following the revolution that gave the Arab Spring and set the country on the path of a democratically-driven economic transformation. To succeed in this transition, Tunisia must address major problems of unemployment and poverty, which are weighted towards youth in a country with a relatively young population. There are some 200,000 unemployed graduates in Tunisia today and a supply of 80,000 new graduates every year who need employment. At the same time, Tunisia's business sector is dominated by traditional firms in traditional sectors with poor growth and income generation opportunities and must open up to new methods, products and markets. Creating jobs for youth and transforming the business sector are two aspects of the same challenge, a challenge that only entrepreneurship can address.

The Tunisian government is of course introducing a number of programmes and reforms aimed at stimulating entrepreneurship activity at national and local levels. Access to financing will be improved through new seed funds and loan guarantees, start-ups will be supported through new business incubators and training and coaching to entrepreneurs to increase their skills and competences in this domain. It is important that these measures are made accessible to the university student population and that they have the student population in mind in their design, including the female population, which makes up over 50% of university graduates.

At the same time, during the last decade Tunisian universities and universities of applied sciences have been developing their own internal activities for entrepreneurship education and start-up support. It is very encouraging to see that all universities in Tunisia are offering a teaching module in entrepreneurial culture. This cannot be said of many OECD countries. In addition, several Tunisian universities have established entrepreneurship professorships and departments and dedicated start-up support services in the form of entrepreneurship centres, business incubators and technology transfer units. These efforts need to be continued, extended and consolidated if they are to meet the scale of the challenge at hand, building on the best practices in Tunisia and internationally.

To this end, the OECD has worked with the Tunisian Ministry of Higher Education and Scientific Research and its partner ministries, together with the German Institute for Overseas Co-operation GIZ (Gesellschaft für Internationale Zusammenarbeit) and university representatives in Tunisia on an assessment of the main opportunities and challenges. The study forms part of the OECD's review series on Boosting Local Entrepreneurship and Enterprise Creation, delivered by the OECD Local Economic and Employment Development Committee. The reviews are founded on OECD good practice criteria and assessment tools that enable an assessment of universities and policies on the key dimensions of good entrepreneurship provision. The review framework emphasises the following:

- University strategies that provide clear objectives and incentives for entrepreneurship activities;

- Adequate financial and human resources for entrepreneurship activities;

- Dedicated entrepreneurship education and start-up support infrastructures such as entrepreneurship centres and incubators and access to external business support;

- Entrepreneurship education activities integrated across the curriculum using tailored and interactive teaching methods;

- Appropriate methods for start-up support such as team building and mentoring;

- Regular evaluation and monitoring of the results of entrepreneurship activities leading to learning about what is working well and less well and securing adaptations.

I am delighted that the OECD has been able to work with the Tunisian authorities and GIZ on this review and I am confident that the analysis, recommendations and learning model examples will be useful both for policymakers and practitioners in Tunisia and for their counterparts in other countries.

The review report shows that the key to success will be increasing the intensity of entrepreneurship support for those students who have the motivation, ideas and capabilities to make a success of entrepreneurship. This implies the development of a two-tier university entrepreneurship support system in Tunisia offering at the same time extensive basic teaching in entrepreneurship aimed at increasing understanding of entrepreneurship and entrepreneurial intentions in the student population as a whole and deeper business creation and growth support for those ready to go further. The introduction of this system will be assisted by exchange, networking and collaboration amongst universities within Tunisia and internationally on good practices and common approaches.

Tunisia is already some steps ahead in the effort to integrate entrepreneurship education in the university curriculum and to provide complementary support and well placed for its refinement based on the messages of this report. I would like to thank GIZ and the Tunisian authorities for the opportunity they gave us to contribute to this effort.

Sergio Arzeni

Director, OECD Centre for Entrepreneurship, SMEs and Local Development

Head, OECD Local Economic and Employment Development ProgrammeForeword

TABLE OF CONTENTS

Tables

Figures

Boxes

EXECUTIVE SUMMARY

The context of the study

Tunisian higher education institutions (HEIs) – universities and universities of applied sciences – can play a critical role in supporting the economic and social changes that are required to address the twin challenges of job creation for youth and building a dynamic base of growth-oriented businesses. If they are to fulfil their potential in this respect they must recognise entrepreneurship promotion as a strategic objective and develop appropriate activities for entrepreneurship education and start-up support. Public policies must also provide the appropriate incentives and supporting institutions and programmes.

The purpose of this study is to assist universities and policymakers to fulfil the potential by identifying options and priorities for strengthening graduate entrepreneurship support in Tunisian higher education institutions based on an analysis of their current practices and environments and comparison with best practices in other countries. Across the globe, universities are assuming new responsibilities as drivers of economic development. They are increasingly involved in teaching strategic and functional skills for entrepreneurship and in providing complementary coaching, mentoring, incubation and finance. Many have established entrepreneurship courses and entrepreneurship centres that stimulate entrepreneurial intentions among students and help increase the success rate of those ready to start a business. There is rapid development and change in this field internationally, with rapidly evolving structures and pedagogies, and there is much to be learned at this time.

This study assesses Tunisian universities in terms of their strategies for graduate entrepreneurship, their approaches to entrepreneurship education and their approaches to start-up support and provides recommendations for strengthening the graduate entrepreneurship support system in Tunisia. It also provides international learning model examples that illustrate how universities and governments in other countries have addressed the same issues as those faced in Tunisia.

It is based on an assessment of issues and good practices internationally, surveys of leaders, staff and students in Tunisian HEIs, a stock-taking report on HEI activities in Tunisia, a series of interviews with stakeholders from government, universities and economic development organisations and workshop discussions with actors in the world of graduate entrepreneurship support.

Major findings

Strengths

Entrepreneurship education has taken off in Tunisia during the last decade and is now an important feature of the activities of all the country's HEIs. Each university offers a teaching module in entrepreneurial culture, providing opportunities to a much larger proportion of students than is commonly found in other countries.

There are many positive features of the entrepreneurship education offered. Business experience is often a consideration when recruiting entrepreneurship teachers, some advanced pedagogies and tools are

being used to complement classroom teaching, such as psychometric tests and student enterprise clubs, and contests best business plan and best entrepreneurial ideas competitions are stimulating the interest of students.

Tunisian HEIs also offer start-up support activities for example through university incubators and the external support structure for entrepreneurship is dense and well developed.

There is evidence of positive results from this effort. Participation in entrepreneurship courses has increased the interest of students in starting a business. Nascent student entrepreneurs have been assisted with the development of business ideas, motivated in business start-up by professors and researchers, offered use of business ideas delivered through the university curriculum and received advice from technology transfer units, career services and entrepreneurship centres.

Challenges

However, graduate entrepreneurship in Tunisia is currently hampered by certain constraints. Problems related to entrepreneurship education include lack of experienced teachers and trainers, very heterogeneous and often unsuitable teaching contents, lack of clear and agreed understandings on the content of the subject, over-reliance on classroom teaching, lack of tools and appropriate pedagogical resources, lack of interdisciplinary and cross-faculty collaboration, difficulties relating teaching to the national and local contexts of the students, and poor incentives for faculty staff to engaged in the provision of entrepreneurship education.

The graduate business start-up support system too strongly focused on the early stages of business launch, neglecting later support to overcome critical thresholds during business development and growth that contribute to ensuring longer term survival and business development. Furthermore, the occupancy rates of business incubators are often rather low. There are also problems with the referral of students to external business support. The external business support system is not always coherent and there is sometimes competition amongst different national ministries supporting different policy tools. An overall integrative and strategic approach to foster graduate entrepreneurship is lacking. In addition, the current contacts between Tunisian HEIs and external support organisations are more based on ad hoc individual actions than on systematic referral processes.

Collaboration amongst universities is also limited, whereas scant available resources would suggest enhanced co-operation amongst HEIs through the development of common approaches and resources.

Conclusions and recommendations

A national graduate entrepreneurship strategy

A national graduate entrepreneurship strategy should be established in order to incentivise graduate entrepreneurship support and provide a coherent and supportive framework. This strategy should set out clear objectives, indicators and a performance management system for university entrepreneurship support. At the same time, HEIs should be given flexibility in designing and implementing a system that is tailored to their own needs.

An HEI exchange platform

In order to stimulate greater inter-university and cross-faculty collaboration, greater connection between entrepreneurship education and start-up support provision and an up-scaling of university

entrepreneurship support, a national exchange platform for graduate entrepreneurship support should be created. The exchange platform should serve HEIs with the following components:

1. A network of entrepreneurship champions who are inward and outward facing at university and faculty levels and who promote and co-ordinate entrepreneurship teaching and start-up support. These champions should also be responsible for promoting the response of universities to the objectives, indicators and incentives set by government.

2. An academic association for benchmarked learning on entrepreneurship education and start-up support practices.

3. The intensification of training and mentoring for entrepreneurship teachers and start-up support providers, supported by an observatory of practices in entrepreneurship teaching and start-up support providing better teaching and start-up support resources.

A two-level entrepreneurship support system

A two-level university entrepreneurship support system should be established in order to complement an extensive entrepreneurship teaching offer with more intensive teaching and services for high-potential graduate entrepreneurs:

Level 1 should provide improved basic teaching in entrepreneurship for a large body of students. It should include regular awareness raising actions on entrepreneurship, develop training programmes for entrepreneurship teachers, create more inter-disciplinary teaching, establish a better balance between theoretical and practical inputs, include professionals and entrepreneurs in developing and delivering courses, and identify and promote students with concrete business ideas.

Level 2 should offer deeper business creation and growth support for those students with more advanced ideas and capabilities. An emphasis is needed on providing services that help students to overcome the barriers they face to business creation: finance to start a business, sources of business ideas, access to technology, access to co-founders, access to office space, links to investors, access to business networks and access to public support. It is also important to establish systematic links between incubation facilities and HEIs, strengthen collaborations between HEIs and local support providers more general, and introduce tailored post start up support such as through the introduction of a programme for high-potential student businesses focused on those business plans that have the ability to generate 'born-global' firms.

The strategy for entrepreneurship education in higher education should favour the adoption of innovative pedagogical approaches and allow the labelling and/or certification of good practices and entrepreneurship teachers. Other key actions include organising entrepreneurship awareness seminars for a range of university stakeholders, recruiting entrepreneurship researchers who can also teach the subject matter, developing training programmes for teachers and researchers in entrepreneurship, adapting contents, resources and pedagogical methods to local specificities and the specificities of different student levels and subjects, increasing the use of internet technologies, finding a better balance between theoretical and practical elements of entrepreneurship education, and developing inter-disciplinarily through teamwork on entrepreneurship projects.

In the field of start-up support, HEIs need to move from ad hoc and informal support activities and referral processes towards a co-ordinated and systematic approach covering all stages of entrepreneurship, business launch and business development support. This requires strengthening and expanding internal support activities. Key actions include expanding internal support activities to cover business development as well as business launch support, providing systematic coaching for starters and connecting nascent entrepreneurs with alumni entrepreneurs, providing financial support such as venture capital or business

angels for high-potential firms, and introducing a service to help students, graduates and teachers at the HEI to think about the commercialisation potential of research. It also requires institutionalising HEI links with external support providers including development of joint strategies with external support providers and a systematic mechanism for referral of students to external support agencies offering training, advice and financing.

International learning models

Inspiration for the development of the graduate entrepreneurship strategy, the HEI exchange platform and actions to deliver two-tier graduate entrepreneurship support can be drawn from practices that work well in other countries as long as they are appropriately adapted to local conditions. Relevant initiatives outlined in the report include:

- Go Wales, United Kingdom, which provides work placements that help students and businesses to work more closely together.

- The Youth Entrepreneurship Strategy, Wales, United Kingdom, which sets a framework for providing young people with entrepreneurial skills and attitudes through the education system.

- The Dynamo Role Models programme in Wales, United Kingdom, which recruits and trains active and successful entrepreneurs to support students.

- Enterprise Champions in HEIs in Wales, United Kingdom, who promote and co-ordinate entrepreneurship support within and across universities for example by piloting new forms of entrepreneurship training and support, developing links with outside businesses and promoting the benefits of entrepreneurship support to their university.

- Local economic partnerships in London, which illustrate the life cycle that the partnerships that universities develop in this area may follow.

- The French Observatory of Pedagogical Practices in Entrepreneurship, which acts as a national centre for the transfer of good practices, and the promotion of pedagogical tools, approaches and case studies.

- The International Master of Entrepreneurship Education and Training in Denmark, which provides training for future entrepreneurship educators and advisors.

- The National Foundation for Business Management Education, France, which supports the development of management education and research in French universities including through the promotion of partnerships with foreign institutions.

- The Jönköping Science Park, Sweden, which offers an integrated and streamlined support system channelling students to the most appropriate support, a Business Lab employing recent graduates as coaches for students wishing to develop their idea and start a business, and a service to help students, graduates and teachers to think about research commercialisation opportunities.

- The Mentor your Business programme in Sweden, through which experienced entrepreneurs and managers offer their services and advice to young, graduate-led businesses.

- The Germany – A Nation of Entrepreneurs initiative, which provides high-potential graduate businesses with financial support such as venture capital and business angels, and bundles existing support for graduate entrepreneurs from various stakeholders at national and local level into one streamlined and easily accessible package.

- The Munich University of Applied Sciences and its Strascheg Centre for Entrepreneurship, which demonstrate how over a decade a university can secure a clear vision and strategy, effective internal organisation and external collaboration, and appropriate financial and human resources.

CHAPTER 1: TUNISIA AT A CROSS-ROADS

1.1. Introduction

All around the globe, entrepreneurship has found its way into higher education. Whereas starting up their own business is a viable immediate aim during their studies or after graduation only for a small percentage of students, teaching about and for entrepreneurship in universities caters to students' expectations of education and is a means to satisfy their search for newness, novelty, uniqueness and practicality.

Recent data from the international survey research project GUESSS (Global University Entrepreneurial Spirit Students' Survey) shows that less than 5% of all students worldwide aim to start up their own business directly after studies. Most prefer paid employment directly after studies: more than two-thirds intend to start as an employee in a large firm, public service or academia – many fewer choose an SME as their first intended workplace. However, five years after completion of studies, there appears to be a change, with more than 20% thinking of founding an own company.[1]

Very often becoming an entrepreneur is the result of a personal decision making process including assessments of opportunities and their costs (being employed, being unemployed, being one's own boss), risk-reward relationships (what is at stake), and others. Values, beliefs and behaviours, embedded in the culture of a country and a place, influence this decision. Many inputs and circumstances contribute to entrepreneurial success, but of particular importance is having the right skills and competences to identify and realise opportunities, to recognise difficulties in time, and to respond to failures. Starting early in getting familiar with the idea that running one's own firm is a potential career option is important, and education can play a core role in this. The number of universities that mobilise their graduates for entrepreneurial careers is growing rapidly. Universities, in particular, provide unique learning environments for nascent entrepreneurs. It is the combination of research activities with teaching, the multi-disciplinarity in knowledge generation and application, and the variety of perceptions of entrepreneurial opportunities and risks that can make a difference in motivating and preparing successful entrepreneurs, especially amongst youth.

More and more universities match their entrepreneurship education activities with hands-on start-up support, for example, by facilitating access to finance, by offering individuals or teams physical space for rental, and by easing access to research findings. Entrepreneurship education and the provision of 'hands on support' are still new tasks for many universities. Successful implementation requires not only closer links between the 'research' and 'education' missions of a university, but also partnerships with entrepreneurship support providers and (global) sources of financing (see Chapter 6).

In promoting entrepreneurship, universities themselves need to be entrepreneurial and innovative. Public policy plays an important role in 'opening up' universities towards their 'third mission' and in

---

[1] GUESSS (Global University Entrepreneurial Spirit Students' Survey) is an international research project that surveys at global level students' entrepreneurial intentions, activities and their antecedents. In Spring 2011, a large-scale quantitative survey was conducted in 26 different countries, addressing more than 1 million students from 489 Universities, leading to a data set with more than 93 000 responses (N=93 265).

building synergies with research and teaching. However, universities themselves have to pro-actively engage if promoting entrepreneurship is to be well integrated with teaching and research – the two core missions of higher education. The following issues seem to be crucial for this:

- Clear incentives and rewards are needed for professors, researchers and students to engage. In particular, entrepreneurship education requires something different to textbooks and 'talk and chalk' style lectures. Rewarding those who are designing and implementing innovative and high quality pedagogical material and teaching, and those who are sharing and promoting the dissemination of ideas and good practices is needed for the continuation of activities and increasing participation rates by students.

- Information about the entrepreneurship support activities (in and outside the university) needs to be easily accessible. The internal and external communication of a university with regard to entrepreneurship therefore matters.

- Balance is required between a minimum long-term financing for staff costs and overheads from university budget or public sources, and openness to private sector involvement in the financing of entrepreneurship chairs and incubation facilities.

- Existing human resources need to be reinforced and developed and new staff employed. Working with entrepreneurs, chief executives, bankers, venture capitalists and business angels provides access to the 'world of business'.

- Networking and incentives for clear referral systems increase the effectiveness and efficiency of start-up support and reduce duplication, confusion and waste of resources. They help universities to find their place in existing (local) tart-up and entrepreneurship support systems.

1.2. The Tunisian context

Today, entrepreneurship has become a lively part of higher education in Tunisia. Nearly all public universities and universities of applied sciences in the country offer entrepreneurship education activities either as part of standard study programmes or outside curricula. Many have established dedicated infrastructure in the form of centres or contact persons that provide teaching activities as well as advice and counselling. Referral to specialised support services is practised by some of the institutions, although – not unusual for new and not fully institutionalised practices – they depend upon the individuals on both sides. Hence, we can say that many higher education institutions in Tunisia, if not all, are on their way to become entrepreneurial.

Tunisia currently faces the problem of approximately 200 000 unemployed graduates, a continued supply of 80 000 new graduates every year and a business sector that is largely made up of small, traditional firms. Entrepreneurship – both in terms of new venture creation and the modernization of existing firms through innovation – has a crucial role in addressing these challenges.

Higher education institutions provide a unique environment for nascent entrepreneurship in Tunisia. They offer opportunities to engage young people with energy and ideas in entrepreneurship and to bring together people across disciplines with different risk perceptions and ideas in entrepreneurial processes. They also offer spaces and environments for teaching entrepreneurship and for providing start-up support.

Many different inputs are required for successful entrepreneurship, one of the most important being entrepreneurship skills. Motivated people need the right skills to identify entrepreneurial opportunities and to turn their entrepreneurial projects into successful ventures. Successful entrepreneurs follow a learning journey, which starts in education and continues through learning-by-doing processes and both formal and

informal learning inside and outside the firm. Tailored practices have emerged in HEIs for educating future entrepreneurs and in helping them to take their first steps in starting-up and growing a business.

Assisting the establishment of new firms is a key objective of university entrepreneurship support, but not its only one. For entrepreneurship education creating entrepreneurial mindsets that drive, for example, modernisation and innovation in existing firms, is of equal importance, yet success is much more difficult to measure. Hence, the co-existence of tangible outputs (e.g. the number of assisted new ventures) and intangible outcomes, such as the spread of entrepreneurial culture and the creation of entrepreneurial mindsets, renders assessing the impact of university entrepreneurship support a challenge that requires tailored approaches and systematic, long-term evaluation efforts.

However, university entrepreneurship support, considered on its own, has its limits. It prepares students for future entrepreneurial careers and promotes the commercialisation of research results. However, success depends upon the close co-operation and integration of the university internal support with the external entrepreneurship support system.

Furthermore, to best support entrepreneurship, universities themselves need to be entrepreneurial. Promoting entrepreneurship is very likely to have an impact on what most universities today perceive as their 'first', 'second' and 'third' missions, and what the best linkages are between education, research, and promoting social and economic development in terms of internal governance, positioning in local, national and global levels and strategic partnerships.

1.3. The OECD review

The OECD LEED Programme has undertaken, with the support of the GIZ office in Tunisia, a project that seeks to contribute to the current process of higher education reform and the development of a strategy that will enhance the role of higher education institutions in promoting entrepreneurship through tailored education and the provision of start-up support. The following Tunisian ministries are core partners in the project: Ministry of Higher Education and Scientific Research, Ministry of Economy and Industry, Ministry of Labour. A project steering group was established with the participation of these ministries, the GIZ office in Tunisia and the OECD LEED Programme Secretariat.

The focus of the study is on entrepreneurship support provided by universities and universities of applied sciences (Instituts Supérieurs des Études Technologiques).

The project steering group selected the following five higher education institutions as case studies: the universities of Jendouba, Sousse, Sfax, the Université Virtuelle de Tunis, and the university of applied sciences Rades. These higher education institutions serve as case studies for an in-depth analysis of the current university-based strategies and practices in entrepreneurship promotion. Detailed interviews were held with stakeholders in all of these universities and their local environments and a survey was undertaken of their student bodies. In addition, a survey was undertaken of leadership and entrepreneurship staff in all Tunisian HEIs.

The analysis focused on the following core questions:

- What are current strategies and practices in university entrepreneurship support? What are the strengths and weaknesses?

- How well is the university entrepreneurship support integrated into the wider local entrepreneurship support system?

- What are the implications for public policy development?

The main information resources used were:

- Discussion at a kick-off workshop in Hammamet in May 2011 with the participation of all Tunisian universities and selected universities of applied sciences.

- A background report prepared by GIZ Tunisia and a diagnostic report prepared by Professor Hamid Ben Dia.

- Surveys of HEI leaders and staff and students with exposure to entrepreneurship support activities.

- Expert interviews with university management, entrepreneurship education teachers, people working in university entrepreneurship centres and the like, representatives of local business support structures and business representative organisations, and leading experts in relevant national government ministries.

CHAPTER 2: SURVEYS OF UNIVERSITY LEADERS, STAFF AND STUDENTS

2.1. Introduction

In order to obtain an overview of where higher education institutions in Tunisia stand in terms of their efforts to support entrepreneurship, two online surveys were conducted: one addressing university leaders and staff and the other addressing students who have participated in an entrepreneurship course. The methodologies and main findings of these surveys are discussed in this chapter.

2.2. Survey of university leaders and staff

Methodology

The online survey of university leaders and staff was conducted from January to July 2012. The questionnaire covered the issues of university strategies and structures related to graduate entrepreneurship support together with the methods and infrastructures used for entrepreneurship education and graduate start-up support.

Representatives from all Tunisian universities and ISETs were invited to participate in the survey. Responses were obtained for ten Tunisian higher education institutions: the universities of Carthage, Gabes, Gafsa, Jendouba, Kairouan, Monastir, Sfax, Tunis El Manar, Ez-Zitouna and the Virtual University.

The questionnaire contained three different tracks: one for staff working in university management and central administration, a second for those involved in delivering entrepreneurship education, and a third for staff engaged in the commercialisation of research and/or promoting business start-up activities. A total of 38 responses were obtained: 18 from representatives of university management and central administration, 11 from entrepreneurship educators, 5 from staff involved in business support activities, and 4 from people in other groups. The latter were excluded from the survey analysis.

The analysis presented here uses the data from the respondents belonging to university management and central administration for information on the strategic objectives, resources and structures of the universities. The information on teaching methods and start-up support has been obtained from entrepreneurship educators and business support staff in the universities. There were some cases of multiple responses to a question from representatives of the same university. If there was any conflict between the responses, the response of the higher ranked staff was used.

Objectives and structures of university entrepreneurship support

As shown in Figure 2.1, promoting entrepreneurial attitudes, behaviour and skills amongst students and supporting them to undertake concrete business activities were reported by all of the universities as prime objectives of their entrepreneurship support. The majority of the universities reported that promoting business start-up activities by researchers and the commercialisation of research results were also strategic objectives for their graduate entrepreneurship promotion. However, only four of the ten universities reported that encouraging creation of businesses by professors was an objective of their graduate entrepreneurship promotion. Joint involvement of professors with students in business creation has proved

successful in many other countries. A barrier in this respect is that not all of the universities provide staff with the legal possibility to own a business or own shares in a business. On the other hand, professors and researchers in Tunisia own all rights in their inventions, a practice that in Europe is currently limited to Sweden and Italy.

Figure 2.1. Strategic objectives of university entrepreneurship support
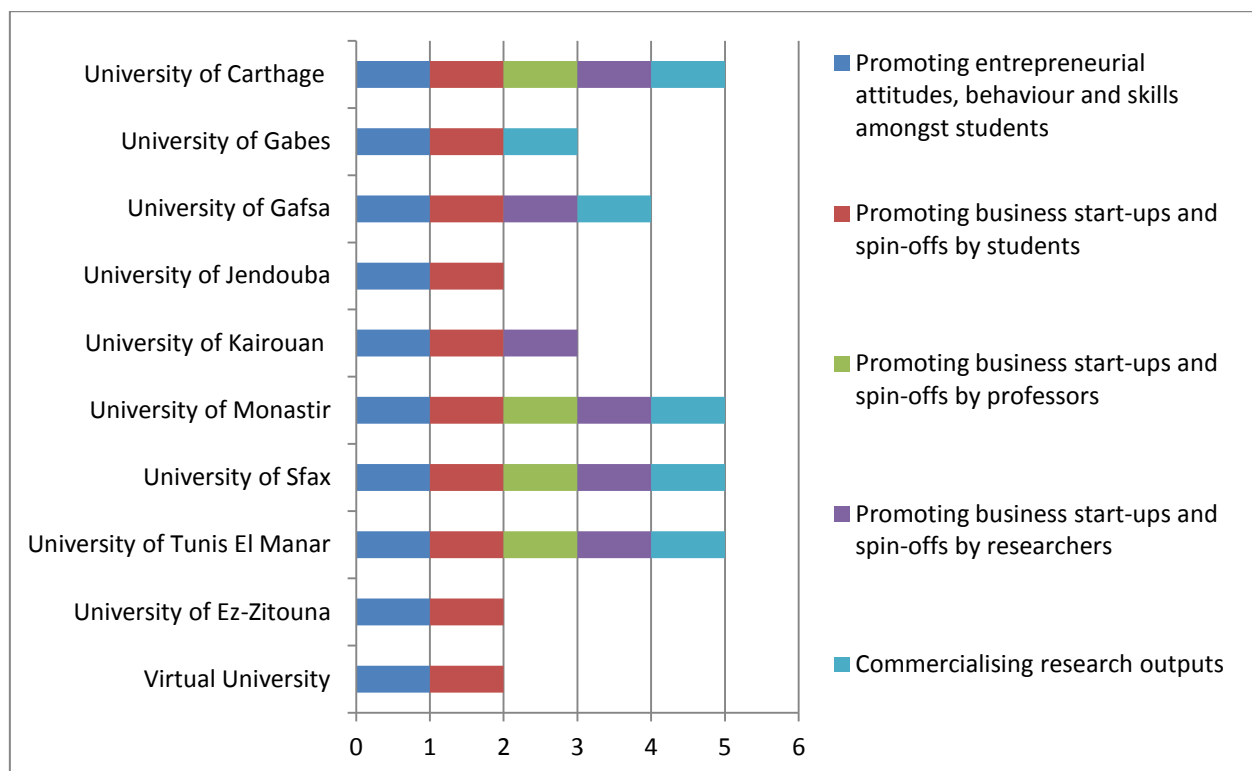
In addition, all of the universities ─ except the virtual university ─ stated that establishing and maintaining links with local industries was a strategic objective for their graduate entrepreneurship support. These links are generally utilised to enhance local or regional employment opportunities for university graduates. However, there is further scope to develop local business contacts in addition for the conceptual development and implementation of entrepreneurship support activities. Hence, for example, regularly involving business people in entrepreneurship education or engaging business support organisations such as chambers of commerce in promoting technology transfer and innovation are not yet widely practised.

Overall, there is good strategic recognition of the opportunities stemming from entrepreneurship promotion across Tunisian universities, although the use of graduate entrepreneurship promotion for commercialising research results, involving professors and researchers in start-ups and involving local businesses in designing and delivering entrepreneurship education and support could be more widely recognised.

Alumni are a further underutilised resource in promoting entrepreneurship in Tunisian universities. In OECD countries, it is common for alumni entrepreneurs to be engaged in teaching programmes as role models and educators in order to nurture entrepreneurial attitudes and competences amongst students. They also often act as gatekeepers for knowledge and technology transfer. However, the concepts of alma

mater and alumni, and the related social capital, are still underdeveloped in Tunisia's higher education landscape. Of the surveyed universities only two (Kairouan and Jendouba) had established a graduate tracking system, which contacted alumni after graduation, and only the University of Kairouan enquired whether self-employment or owning a business that employed others were amongst the alumni's professional choices.

Many of the universities make standard information on entrepreneurship support available to students via the university's website. There are nonetheless varying degrees of accessibility to this information from the university entry page. As shown in Figure 2.2, whilst some universities have no direct link to information on their entrepreneurship support on their website, others make a link, which ranges in proximity from one click (University of Sfax) to six to seven clicks (University of Monastir).

Figure 2.2. Number of clicks': visibility of university entrepreneurship support
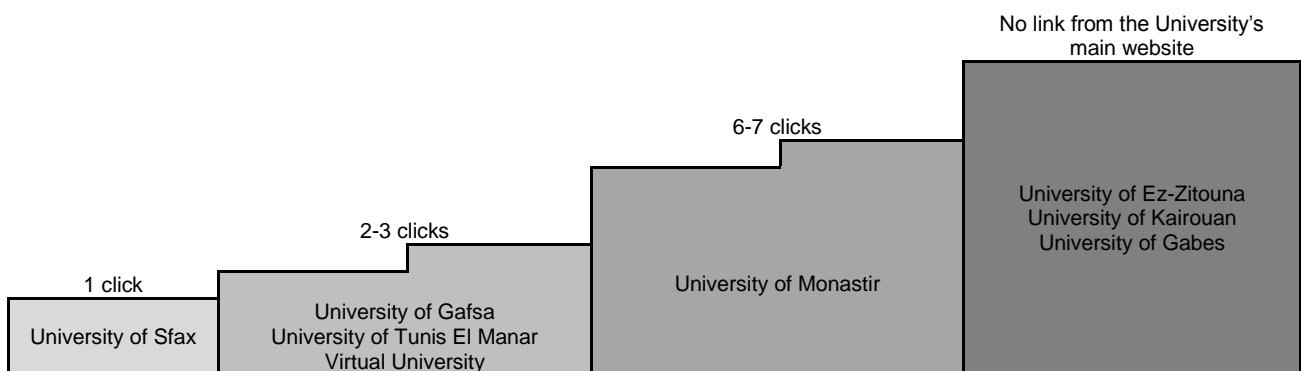
Source: OECD university leaders and staff survey

In addition, all the universities provide information to students about the legal and financial aspects of business creation and the technical support and infrastructure available to support entrepreneurs. This includes information on existing entrepreneurship support providers and measures both inside and outside higher education institutions (Figure 2.3).

Figure 2.3. Current offer in entrepreneurship support activities
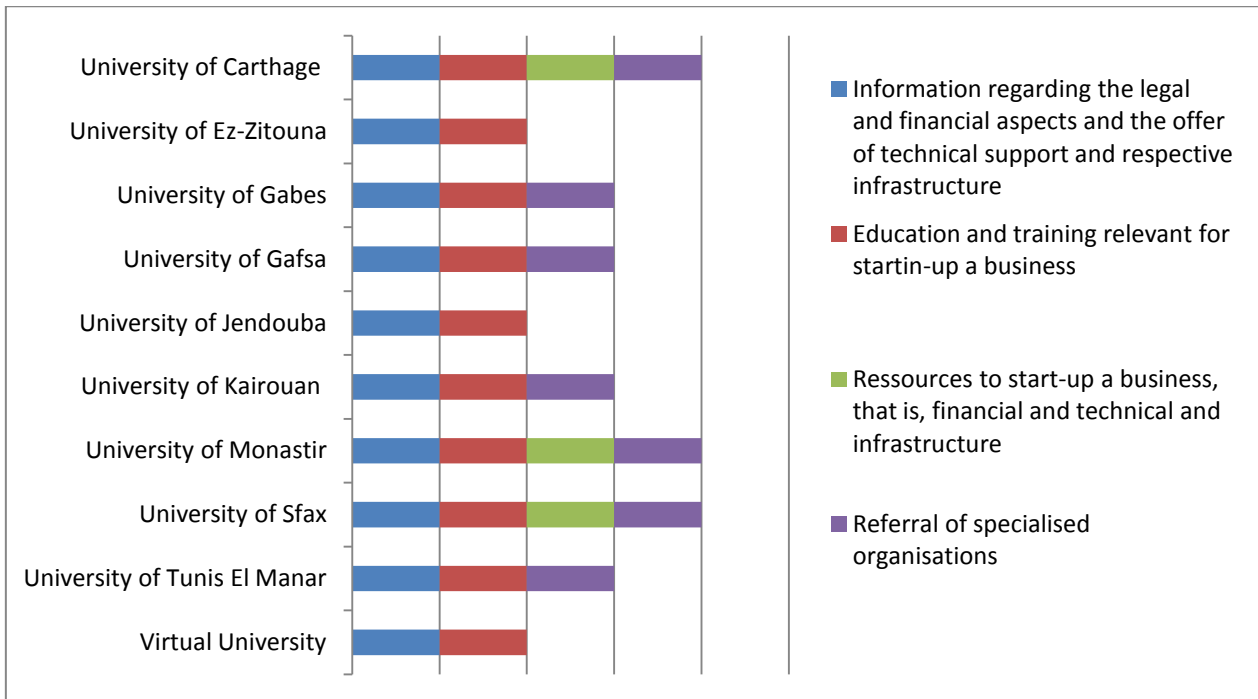
Source: OECD university leaders and staff survey

Entrepreneurship education is offered by all the universities. This has been the case for more than half a decade. The University of Gafsa was one of the first universities in the surveyed group to offer entrepreneurship education activities, starting in 2005.

Most of the universities provide entrepreneurship education across a wide range of faculties, also as part of the mandatory study programme. However, not all the universities include their engineering faculties in their entrepreneurship education offer, although this discipline tends to be one of the main sources of high-impact entrepreneurship internationally. Furthermore, the entrepreneurship courses provided were for students from within individual faculties. None of the universities offered activities that were open to students from other faculties and that are thus capable of generating multi-disciplinarity. This practice has proven to greatly facilitate creativity, idea generation and teambuilding and is increasingly offered by universities internationally.

Two of the universities (Sfax and Gabes) use psychometric tests, either as a general tool to raise the interest of students in entrepreneurship and entrepreneurship education through a self-assessment of their interests and traits, or as a way to select students for special support activities. It would be beneficial to extend the use of these tests to other universities.

Across the universities, between one per cent (Monastir) and eleven per cent (Sfax) of professors were actively involved in entrepreneurship education activities. Human resource development activities for staff involved in entrepreneurship education are still limited, however, and only the universities of Sfax and Jendouba have been active in this regard during the last two years. For one-third of the universities work experience in the private sector is a selection criterion when hiring new professors and researchers. This is often beneficial to the quality of entrepreneurship education and could usefully be extended. It is also important to recognise the efforts and achievements of academic staff in promoting entrepreneurship as part of the key performance indicators. This is already the case in the universities of Gafsa, Sfax and

Jendouba. On the other hand, other forms of incentives or rewards for staff that actively support students to start a business are not generally used in the surveyed universities.

In addition, most of the universities offered facilities for would-be entrepreneurs to gather and network, so called 'enterprise clubs'.

What is often missing from current university entrepreneurship support activities on the other hand is the provision of financial, technical and infrastructure resources to start a business such as the services commonly provided in business incubators. Only three of the universities provide such resources directly to graduate starters. The University of Sfax is a good practice in this respect in that it offers a permanent centre with two staff, established as an integrated part of the university, which acts as a first and single contact point for students and staff interested in starting up a business.

It is not always necessary to offer resources directly as a university, however, since if technical, infrastructure or financial support from external non-university providers is available, appropriate and accessible to students it may be more efficient or effective to operate through these external organisations rather than duplicate supply within the university. Eight of the eleven surveyed universities refer potential future entrepreneurs to specialised organisations for concrete support to start-up a business. Three of them use this to complement their own support, while five use this as the sole source of support. On the other hand, three respondent universities did not provide start-up support resources either directly to students or through referral to other organisations.

2.3. Survey of HEI students

Methodology

The survey of students in Tunisian universities was carried out between November 2011 and February 2012 in four of the five universities selected as case studies for this review: the universities of Sfax, Sousse and Jendouba and the Virtual University of Tunis.

Questionnaires were distributed to students by university teachers during class activities. The students were studying for degrees across a range of main subject areas and had followed at least one entrepreneurship module as part of their studies. In general, the questionnaires were not distributed or collected by entrepreneurship teachers but by teachers of other subject matters or by other university representatives. The universities were each asked to sample 200 students broken down as follows: 50 first-year students, 50 second-year students, 50 third-year students and 50 master-level students.

In total, there were 480 responses. These were weighted towards the University of Sfax, which accounted for more than 50% of the total sample. The response was much lower from the Virtual University of Tunis, which has a smaller student population. Analysis shows that in most respects, students from Sfax had similar characteristics to students from the other universities. Where there were significant differences in the responses of students from Sfax and the other universities results are presented separately below. If only the total response is shown, there were no substantial differences between the responses of students from Sfax and those of students from the other universities on that question.

The students who responded were orientated towards scientific and technical studies, with more than half studying engineering and information technology (IT) and a further 15% studying management and business administration.

Student entrepreneurship backgrounds and expectations

Previous training and work experience

The majority (69%) of the students had not undertaken any vocational training. However, more than three quarters (77%) had gained some work experience before or during their university studies, mostly (91%) in organisations and companies rather than research institutes, and almost entirely (95%) in Tunisia rather than abroad. This previous work experience is promising in terms of helping to complement the skills and competences that universities can foster for entrepreneurship. Although the length of work experience was limited, with the majority (60%) having experience of less than 6 months and only 12% having experience of over one year, we can still suppose that most of the respondents had a realistic understanding of the world of work.

Expectations of future employment

Figure 2.4 shows the characteristics that students considered important in a future job. Their expectations show general tendencies which are compatible with entrepreneurship. For example, the factor considered by the highest proportion of students as being important for a future job was self-determination.

Figure 2.4. Expectations for future jobs
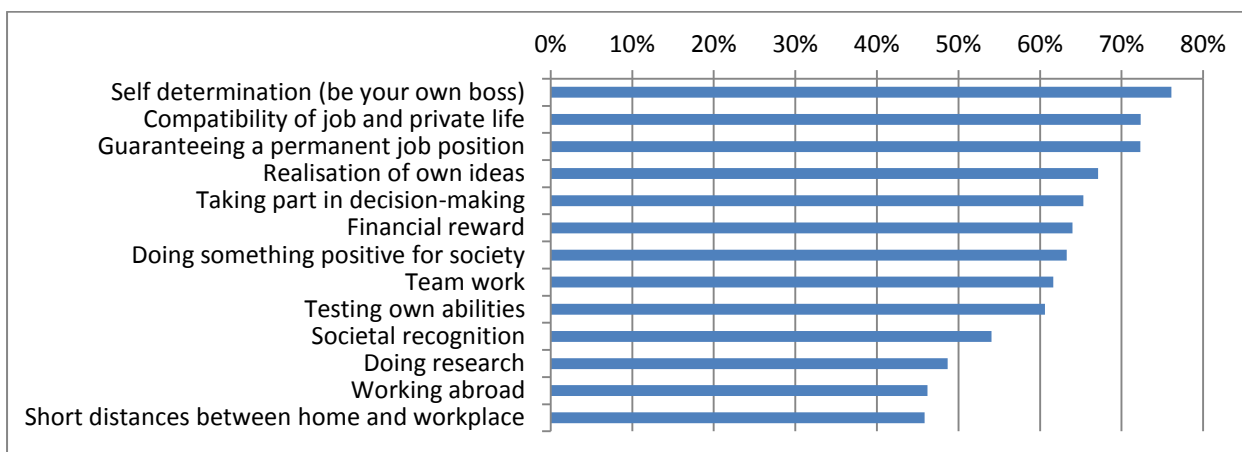
Source: OECD student survey. 461 responses

Some 60% of students had considered starting a business themselves. But less than 10% had made a decision to start their own business and less than 5% had completed a business plan or started its implementation. The provision of entrepreneurship education is likely to have contributed to the fact that the majority of the students had considered starting a business and to the fact that a significant minority had made the decision to start.

Student experiences of entrepreneurship education

Figure 2.5 sets out the types of entrepreneurship education the students had been exposed to and shows the degree to which they considered that the support had a positive influence on their interest in business start-up. Substantial proportions of students reported a positive influence of entrepreneurship education on their entrepreneurial intentions even though a significant minority reported that the entrepreneurship education had a negative impact on their interest in business start-up. This can be considered as a positive outcome to the extent that entrepreneurship education helps students to form more

realistic expectations of the advantages and disadvantages of business and the barriers and opportunities they will face.

The most common teaching methods that the students were exposed to were contact with entrepreneurs, internships, traditional classes and visits to firms. However, exposure to a number of more interactive and experiential teaching methods was less common, particularly those related to simulations and business plan competitions. This suggests scope to extend entrepreneurship education towards the use of a more diverse range of teaching approaches. The students tended to be more interested in less traditional methods of entrepreneurship education, with traditional classes being viewed relatively poorly. They had much greater interest in internships and direct contact with entrepreneurs.

Figure 2.5. Influences on student interest in business start-up
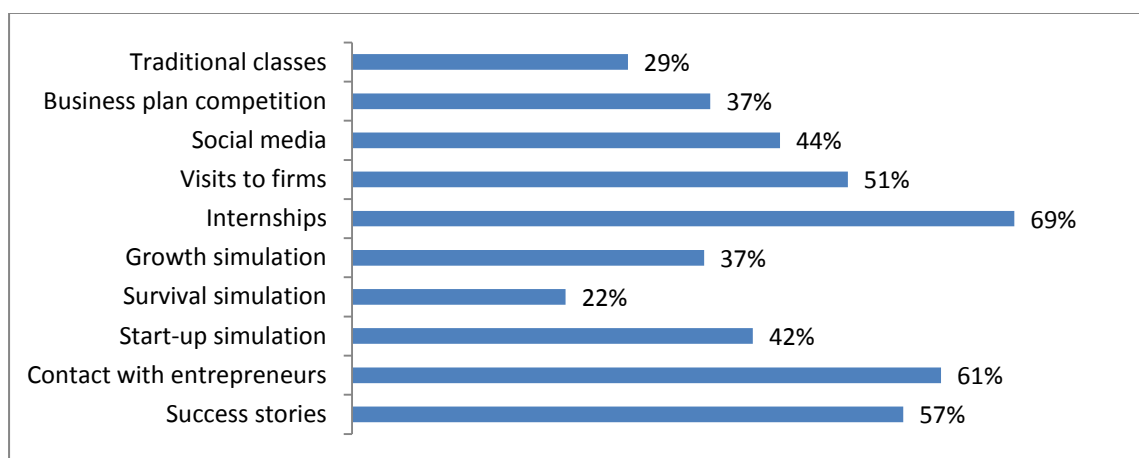
Source: OECD student. 257 responses

All of the subjects which were taught as part of entrepreneurship education were seen to improve the knowledge of students in ways relevant to business creation, with the highest scores going to business law and to corporate finance (figure 2.6.)

Figure 2.6. Degree to which topics taught increased knowledge of business start-up
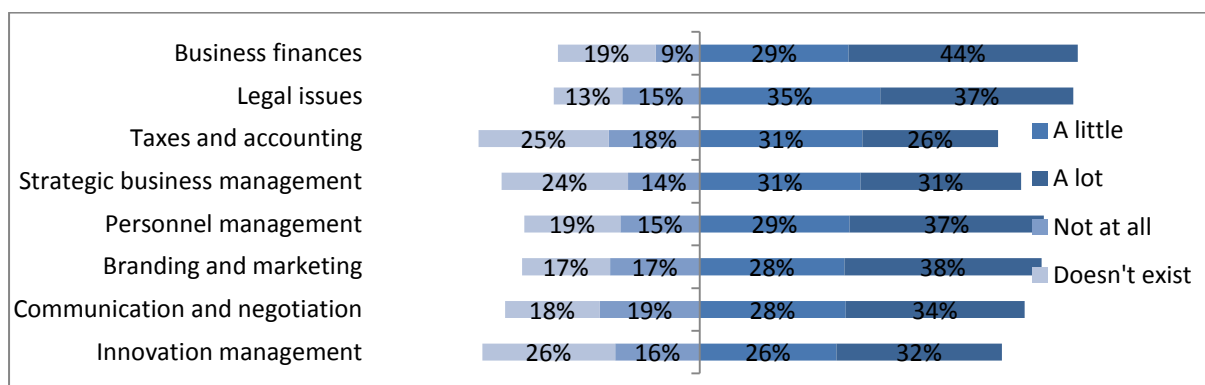
Source: OECD student survey. 304 responses

Figure 2.7 sets out the extent to which the university environment supports them in developing entrepreneurship projects. Many students report that they benefit from increased understanding of

entrepreneurship, but many also disagree. For example, in terms of key objectives of entrepreneurship education, such as increasing understanding of actions for business start-up, there are significant proportions of students who disagree that their entrepreneurship education has had an impact. This may reflect the extent and quality of the entrepreneurship education provided. In particular, some students may have an exposure to entrepreneurship education that is too limited to meet their objectives.

Figure 2.7. Effect of the university environment on encouraging entrepreneurship
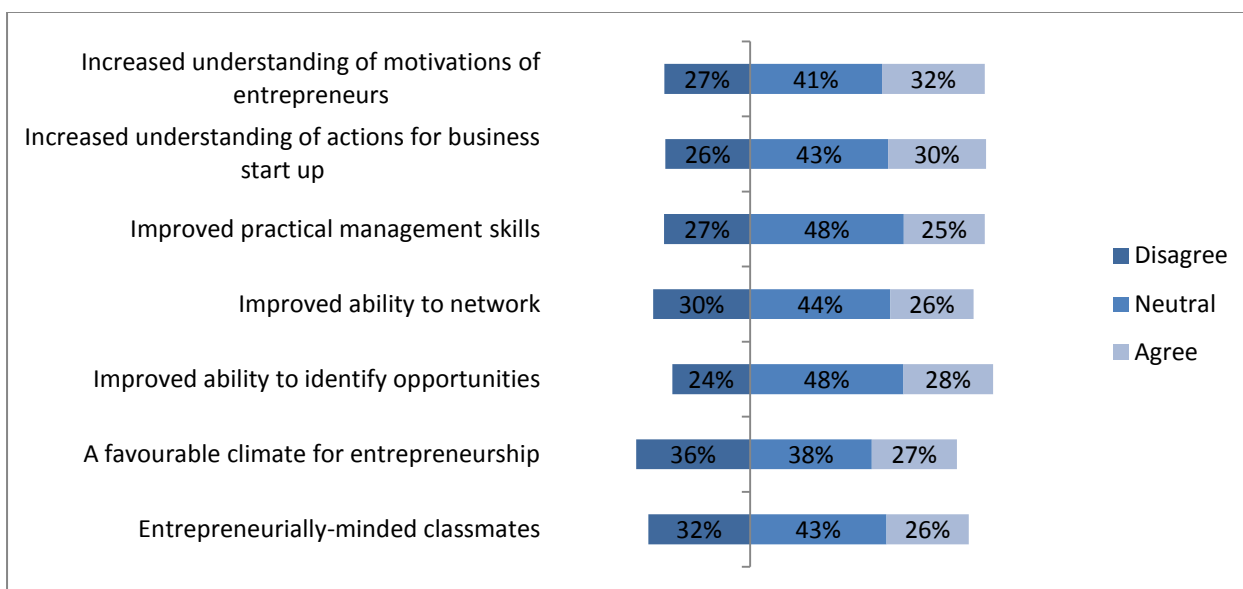
Source: OECD student survey. 428 responses

Student views on barriers to business creation

Figure 2.8 shows the barriers that students believe they face in business creation. Many of these barriers may be alleviated with appropriate entrepreneurship education and start-up support in universities. The greatest proportion of students was concerned by the problem of finding capital to start a business. This suggests the importance of supporting students with financial resources if business start-up rates by students are to increase. This is an area in which Tunisian universities are not very active. High risks are also a commonly reported problem. Entrepreneurship education may be able to help students to reduce the risks they take through appropriate preparation and project design. This should be an important component of entrepreneurship education.

Other important barriers to the students included lack of a business idea, lack of access to technology, finding appropriate workers and co-founders, the level of stress and lack of office space. Access to start-up support infrastructure such as incubation and entrepreneurship centres for those with the most realistic prospects of successful business start-up could make a significant difference to students both by reducing risks and helping with access to ideas, technology, other workers and office space.

Figure 2.8. Perceived difficulties in starting a business (all surveyed universities)
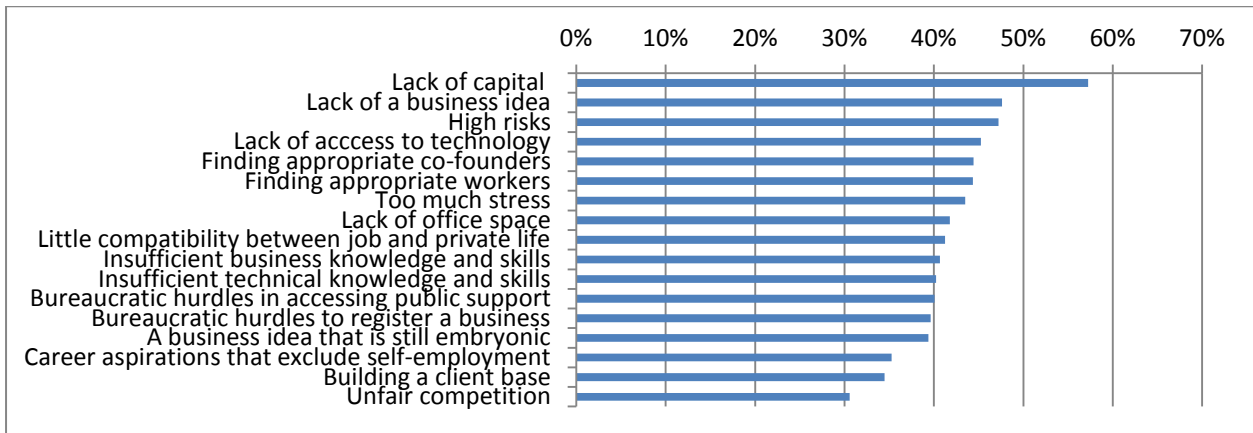
Source: OECD student survey. 335 responses

While students from Sfax identified a similar set of barriers to those from the surveyed universities as a whole, they put somewhat more emphasis on high risks, stress, and lack of a business idea (figure 2.9.)

Figure 2.9. Perceived difficulties in starting a business (University of Sfax)
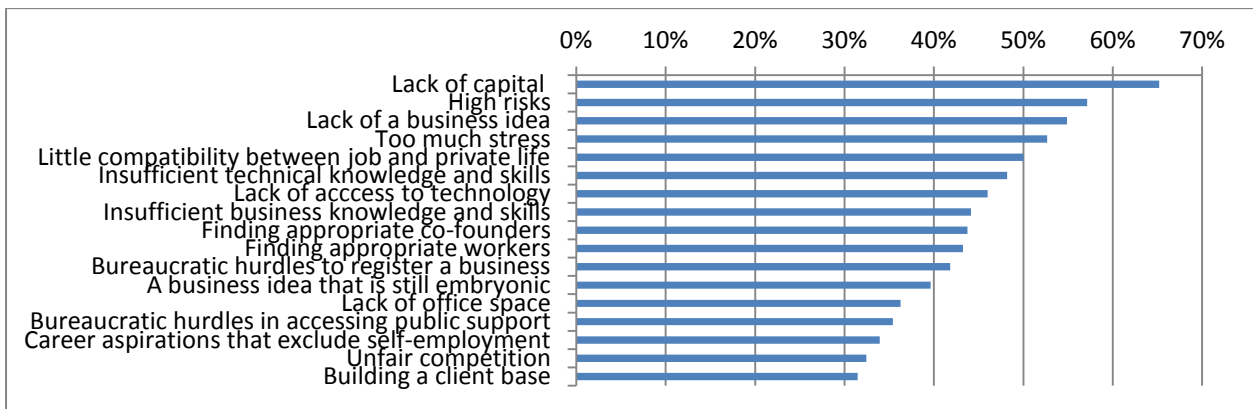
Source: OECD student survey. 113 responses

Motivation and sources of ideas to set up a business

The majority (75%) of those students considering business start-up stated that they had received encouragement from other people to become an entrepreneur. As shown in Figure 2.10, the most important source of motivation was parents. However, professors and researchers at the university had been important motivators for one-third of nascent entrepreneurs and colleagues at the university were also cited by 18% of respondents. This suggests that the university is playing an important role in increasing the interest of students in business start-up, with university staff being more important as motivators than friends, entrepreneurs and non-parental relatives.

Figure 2.10. Source of motivation to consider business start-up

Source	Percentage
My parents	41%
Other relatives	22%
Colleagues at university	18%
Professors/researchers at my university	33%
Friends outside my university	17%
An entrepreneur	12%
Nobody	25%
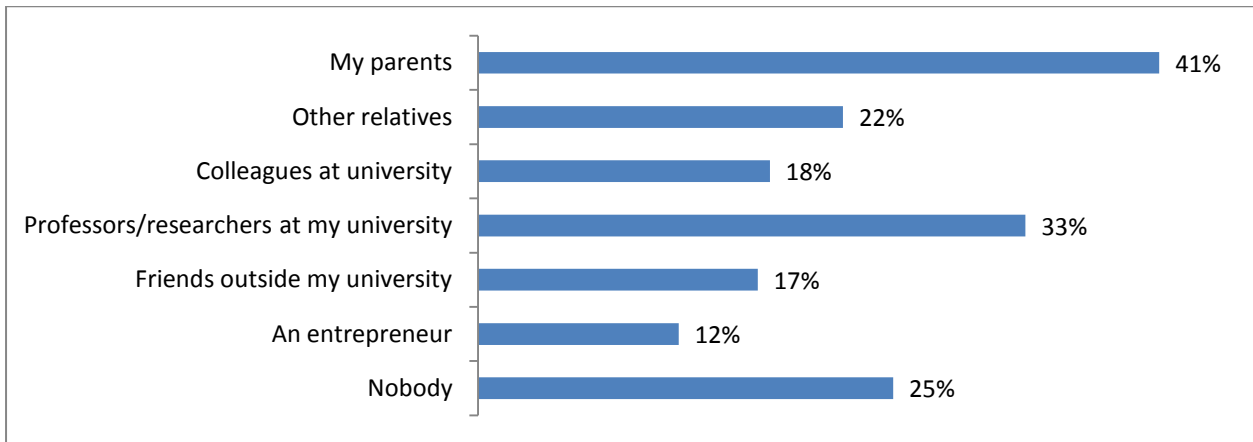
Source: OECD student survey. 364 responses

The ideas for the business came from a variety of sources (Figure 2.11). Ideas delivered through the university curriculum and work experience stand out as important sources. However, family and friends were also important factors.

Figure 2.11. Source of the idea for the prospective business

Source	Percentage
University studies	43%
Current or former work activity	32%
Family	24%
Friends outside university	22%
Ideas from other students	16%
Research	16%
Hobby	15%
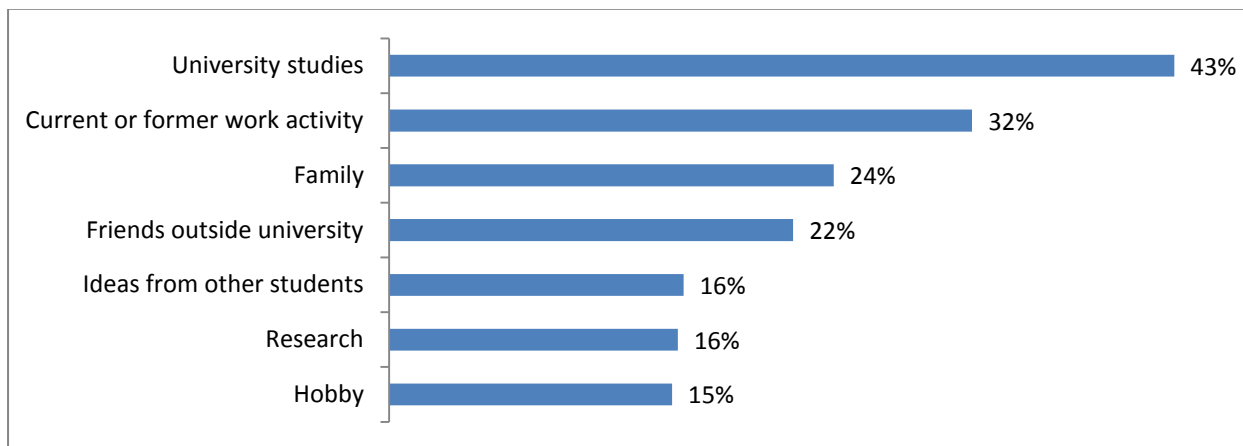
Source: OECD student survey. 318 responses

Nature of the business start-ups considered

Of those students considering entrepreneurship, the great majority were considering setting up a new enterprise. Only 14% were considering taking over an existing business, compared to 46% considering setting up a new incorporated business and 44% considering setting up a new sole proprietorship. There was also a concentration on the local and national markets rather than international markets; and 21% of students had not considered the world market at all. This suggests that there may be scope for entrepreneurship promotion to encourage students to consider more growth and scale oriented entrepreneurship such as through acquisitions and international trade.

26

The business ideas being considered were in a wide variety of sectors, as shown in Figure 12. The large numbers in IT and in industry reflects the nature of the courses which the responding students were taking. Students from Sfax showed a broadly similar profile of sectors for business start-up to the other universities, though with slightly higher percentages in manufacturing (28%) and other (19%) and less in IT (24%).

Figure 2.12. Sector of the prospective business
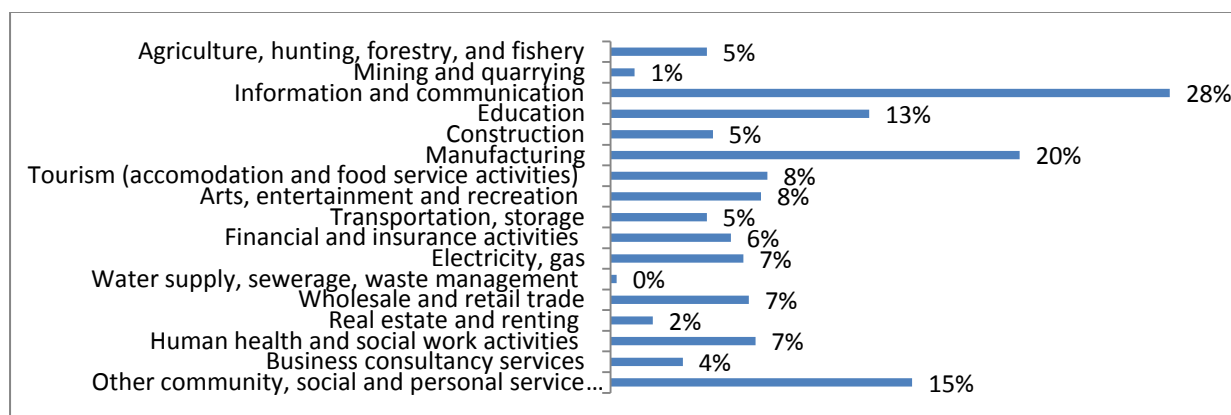
Source: OECD student survey. 333 responses

Actions taken by students to start a business

The nascent student entrepreneurs had already taken a variety of actions connected to start-up, as shown in Figure 2.13, and only 24% had done nothing concrete at all. The actions taken tended to be ones which are at the very early stages of business development (defining the idea, identification of opportunities) and only a limited number of students had taken actions which showed real commitment (purchase of equipment, setting a date for production, production development).

Figure 2.13. Steps taken to start a business
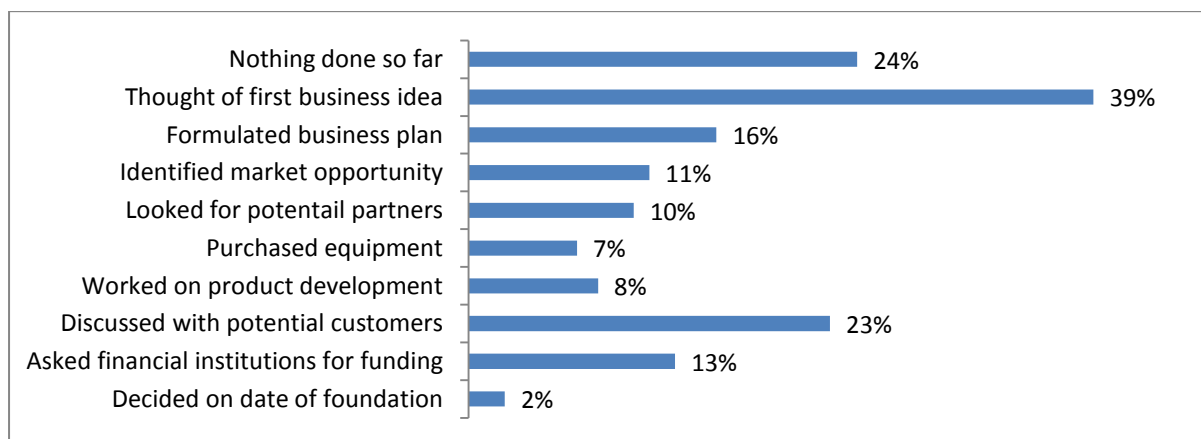
Source: OECD student survey. 308 responses

Use of information and advice from the university

In terms of sources of information on entrepreneurship, the internet was strongly favoured, with two-thirds of the sample using it very often as a source of information for the creation of a business (Figure 2.14). This illustrates the importance of offering accessible information on entrepreneurship on university web pages. The university itself was an important source of information on starting a business, ranking alongside entrepreneurs and above associations in the proportion of students that use it often or very often as a source of information. This underlines the relevance of the university as a stimulus for entrepreneurship activity among students.

Figure 2.14. Sources of information on business start-up used by nascent entrepreneurs
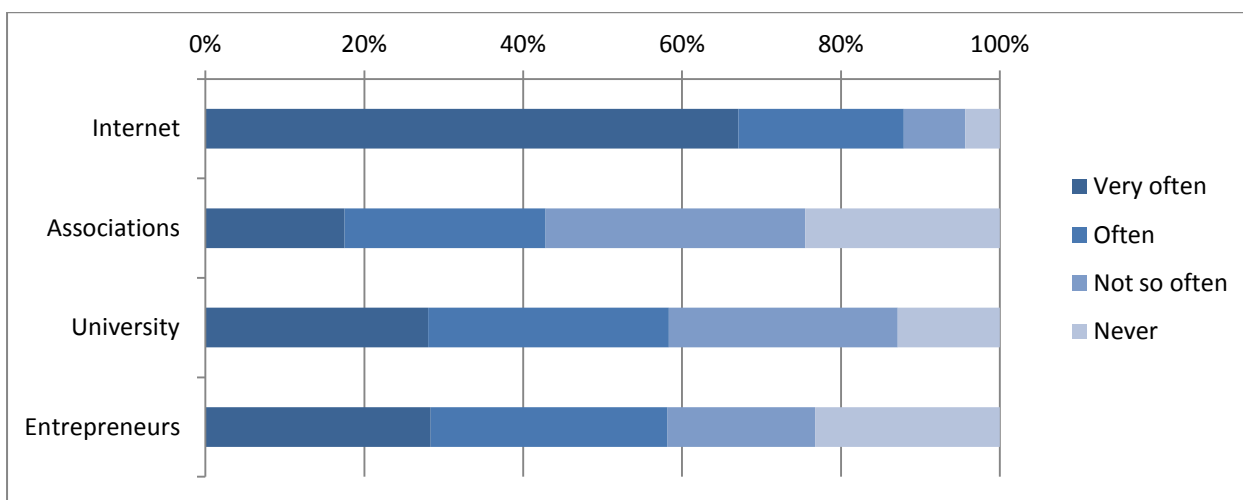
Source: OECD student survey. 322 responses

Figure 2.15 shows the sources of advice provided by the University that were used by the students considering starting a business. Entrepreneurship lecturers and other students were the most commonly used sources. However, more formal support from technology transfer units, career services and entrepreneurship centres were also very commonly used. This suggests that the universities are playing an important role in providing a wide range of opportunities for advice to those students considering business start-up.

Figure 2.15. University entrepreneurship advice used by nascent entrepreneurs
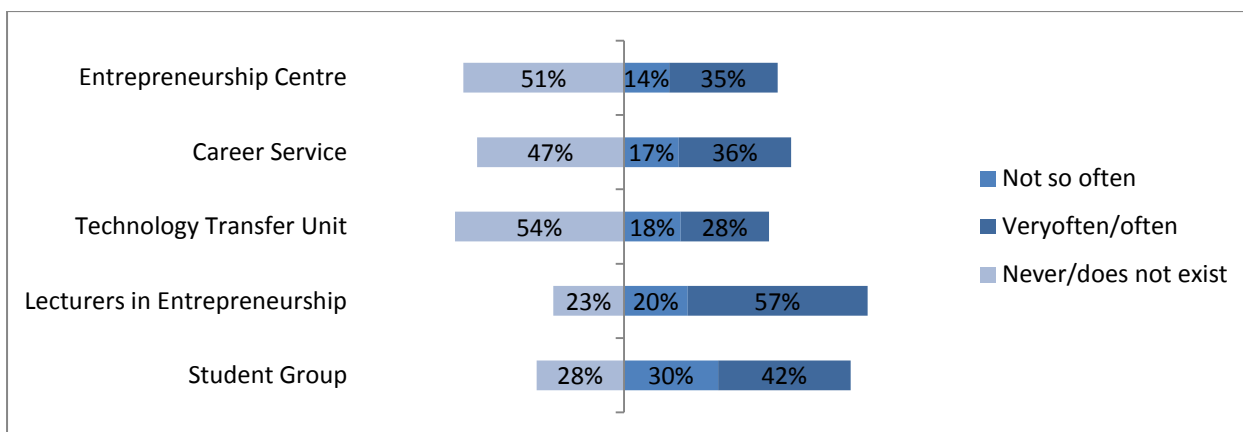
The students were also asked to assess the usefulness to them of different sources of information on entrepreneurship activities from their university (Figure 2.16). They tended to favour websites and direct contact in particular. This again underlines the importance of developing a good and accessible entrepreneurship section on the university web site. Direct contacts are often provided through entrepreneurship courses. Social networks, special events and round tables were also found useful or very useful by significant numbers of potential student business creators and offer good potential to strengthen the university entrepreneurship support offer. Mailing lists, newsletters and posters and flyers on the other hand were considered less useful, although clearly their cost to the university is relatively low.

Figure 2.16. Channels of entrepreneurship information used by nascent entrepreneurs
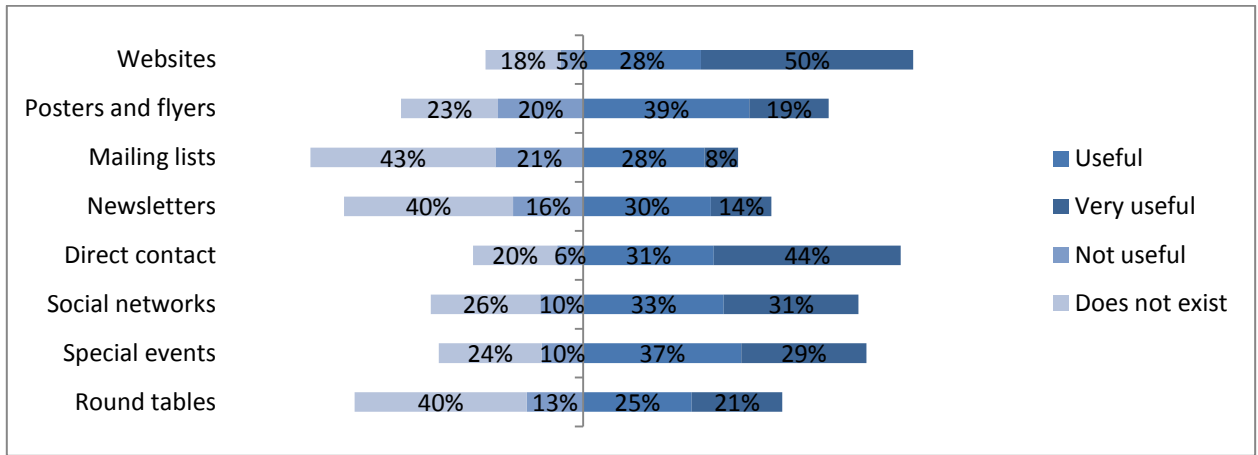
Most students (60%) did not contact any support structure outside of their university. Of those that did, for the majority this was as a result of advice from the university.

Use of start-up support services from the university

Figure 2.17 shows the start-up support services provided to students by the university and the degree to which the students found them helpful. Large numbers of students who were interested in business creation found these services helpful or very helpful. The most beneficial were those related to business plan creation, getting in touch with public support structures and access to entrepreneurs and people in business, although most services were appreciated by at least some students.

Figure 2.17. Helpfulness of university start-up support services to students interested in business creation
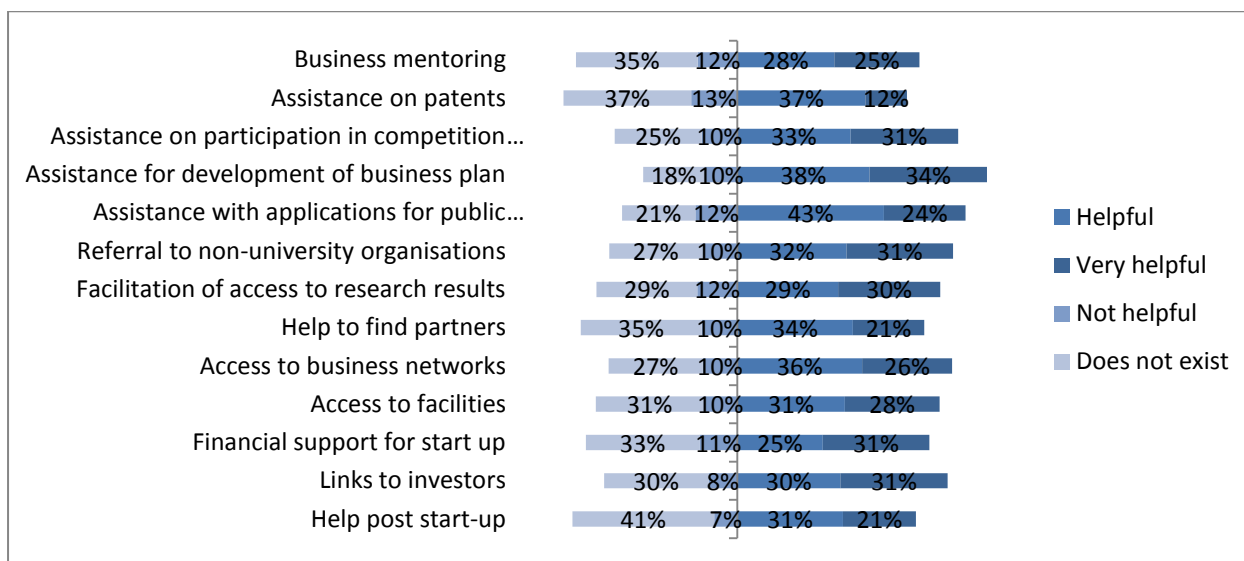
However, students were often critical of the support services offered, with 70% feeling that they needed improvement and only 9% fully satisfied. Figure 18 shows the types of services that students felt were in need of improvement. In particular, students wanted to see improved assistance for participating in a business ideas competition, improved assistance for business planning and improved links to investors. This suggests avenues for further strengthening of university start-up support.

Figure 2.18. Services which students would like the surveyed universities to improve (all universities)

Service	%
Assistance on participation in competition for best business idea	43%
Assistance for development of business plan	40%
Links to investors	37%
Assistance with applications for public support	31%
Business mentoring	27%
Access to business networks	27%
Assistance on patents	27%
Referral to non-university organisations	27%
Financial support for start up	26%
Facilitation of access to research results	25%
Access to facilities	22%
Help post start-up	22%
Help to find partners	21%

Source: OECD student survey. 245 responses

Students from Sfax had a slightly different set of areas for improvement, with greater emphasis on access to business networks and assistance in accessing public support and less concern about assistance in participating in a business plan competition and assistance with business planning (Figure 2.19).

Figure 2.19. Services which students would like the surveyed universities to improve (University of Sfax only)

Service	Percentage
Assistance with applications for public support	41%
Access to business networks	41%
Links to investors	37%
Financial support for start up	31%
Assistance on participation in competition for best business idea	30%
Business mentoring	28%
Referral to non-university organisations	28%
Help to find partners	28%
Access to facilities	28%
Assistance on patents	24%
Assistance for development of business plan	22%
Help post start-up	20%
Facilitation of access to research results	19%

Source: OECD student survey. 54 responses

2.4. Conclusion

The surveys of university leaders, staff and students provide evidence of a solid foundation of entrepreneurship support in Tunisian higher education institutions. They also suggest directions for future actions that will help to fill gaps and increase quality in graduate entrepreneurship support so as to favour better entrepreneurship outcomes.

There are clearly many important strengths of current university entrepreneurship support in Tunisia that should be retained and built upon. Entrepreneurship promotion is recognised as a strategic objective by all the universities that responded to the survey. Entrepreneurship education is offered by all the universities across a wide range of faculties, often as part of mandatory study programmes. Private sector experience is often a consideration when recruiting entrepreneurship teachers and support staff. Some advanced pedagogies and tools are being used to complement classroom teaching, such as psychometric tests and student enterprise clubs.

There is also evidence of positive results from this activity. Participation in entrepreneurship courses has increased the interest of students in starting a business. Nascent student entrepreneurs have also been assisted by their universities to developing their business ideas, they have been motivated in business start-up by professors and researchers, they have benefited from business ideas delivered through the university

curriculum and they have received advice from technology transfer units, career services and entrepreneurship centres. Substantial numbers of students have been positively affected in these ways.

The emphasis now needs to be placed on filling gaps and improving quality in university entrepreneurship support. The survey responses suggest that there are two main priorities: to increase the depth and quality of entrepreneurship education and to increase the provision of complementary business start-up resources.

A major strength of Tunisian university entrepreneurship education is that it has been made accessible to a large group of students. University entrepreneurship education in Tunisia is extensive. However, it is lacking in intensity in certain areas. This is no doubt what is picked up in the finding that many of the students feel that the exposure to entrepreneurship education that they have had has not been effective in increasing their understanding of entrepreneurship. For many, this exposure appears to have been too limited to enable them to learn what is necessary about how to start-up a business, as opposed to having their interest stimulated in business start up. The depth of entrepreneurship education therefore needs to be increased, at least for those with a real interest in entrepreneurship. In part, this means increasing contact time and in part it means using new more adapted teaching methods.

The surveys suggest a number of ideas for actions in this respect. Students tend to favour more interactive approaches such as business simulations over traditional classroom teaching. There is scope to increase business relevance by bringing local business contacts and university alumni who have started businesses into course development and involving them as teachers, role models and gateways to networks and resources. Students in engineering faculties could more frequently be a target of entrepreneurship courses and multidisciplinary teaching offered more frequently. More training of entrepreneurship teachers could be provided. In some universities, information covering university entrepreneurship support and the practicalities of entrepreneurship could be made more accessible on university web pages.

The other priority is to improve the provision of financial, technical and infrastructure resources for those ready to start a business that would appear to have good prospects. In doing so, an emphasis is needed on providing services that help students to overcome the barriers they face to business creation: finance to start a business, sources of business ideas, access to technology, access to co-founders, access to office space, links to investors, access to business networks and access to public support. These are the types of service that are provided in business incubators, although they can also be offered elsewhere such as in entrepreneurship centres. However, only three of the respondent universities operated incubators directly and the indirect links that could place students in external facilities had sometimes not been built. It has to be recognised that services such as these are costly and cannot be provided to all students. However, there is a good case for introducing them for a set of students who are the most motivated and capable of proceeding to start-up and who have the business projects with the greatest orientation to growth and scale.

Furthermore, it would be helpful to more widely recognise the potential of graduate entrepreneurship for supporting the commercialisation of university research, for example by encouraging start-up teams bringing together researchers, professors and students. In cases where this can be encouraged, it could help meet the twin objectives of promoting university research commercialisation and supporting and mentoring students in business creation.

CHAPTER 3: THE ROLE OF PUBLIC POLICY IN PROMOTING GRADUATE ENTREPRENEURSHIP SUPPORT

3.1. Introduction

Over the last decade, research has indicated that entrepreneurship plays a vital role in creating wealth, employment and innovation in an increasingly competitive global economy especially given the increasingly recognised importance of entrepreneurs in exploiting and commercialising knowledge spill-overs. As a result, encouragement of greater entrepreneurial activity has become an increasing priority for governments across the world.

Within this environment, policymakers are naturally becoming concerned with the type of intervention that can be initiated to increase the level of entrepreneurial activity at a regional and national level. In this respect, the question of whether entrepreneurs are 'born or made' has long been a point of discussion. If entrepreneurs have distinctive characteristics that make them more predisposed towards enterprise, then all policymakers can, and should, do is to create an economic environment that is conducive to starting a new business.

Whilst an enterprise culture can develop naturally, changing environmental conditions mean that the entrepreneurial role can be culturally and experientially acquired, and therefore influenced by interventions such as education and training.

3.2. Graduate entrepreneurship support

Entrepreneurship education

The Tunisian higher education system is publicly owned and has a key role to play in the new democratic process. Education is available for everyone in the country and while this is positive, it does cause some problems. The high number of graduates within a small labour market means that organisations are simply not able to absorb these educated people and one of the main challenges is finding a better solution for the orientation of labour supply to the market.

The number of graduates is not the only issue, as there remains a gap between the theoretical competence they acquire in universities and the competences needed within the workplace, particularly in the private sector. Higher education institutions are functioning without any real medium-term plan for how to manage this issue. For example, they do not gather any market information from the private sector on employment needs. There is also the lack of appreciation, from the university sector, that the majority of small and medium-sized enterprises (SMEs) in Tunisia are family-owned enterprises and have very little understanding of the benefits that graduates can bring to their businesses.

There are twelve universities nationally in Tunisia and entrepreneurship education is co-ordinated across the universities by the Virtual University of Tunis (VUT), a small institution with only 400 students. VUT has offered a course in entrepreneurship since 2008, which is when it was put in charge of co-ordinating transversal education in English, informatics and entrepreneurship for the higher education sector in Tunisia. These are each mandatory three-credit modules at the undergraduate level. The courses

are funded by the Ministry of Higher Education and Scientific Research (MHESR) but the courses are owned by VUT.

VUT's role was to organise the course development, provide access to multimedia for the students and deliver a programme of training of trainers. The institution had to learn about different international approaches and, after visiting several regions, decided upon three units for the entrepreneurship module namely (1) developing a taste for entrepreneurship (2) waking up to entrepreneurship through experience and (3) developing an entrepreneurial project. Each module is 21 hours in duration and is aimed at responding to the need for business creation, developing capacity to act and promoting an entrepreneurial culture.

All three modules have been developed online and there are several opportunities for the student, on entering the portal, to talk to those lecturers delivering the course. However, there is also a paper version for those living in regions where the universities are not so well equipped with multimedia.

All three modules are taught within bachelor's courses that are applied or professional in nature. In research-oriented bachelor's programmes the first two modules are taught and the third is provided in the subsequent master's programmes. The modules are fully compulsory at undergraduate except for those undertaking architecture, medicine and pharmacy.

Business support

One of the biggest issues in Tunisia is the positioning of business support, and there are various stakeholders in the entrepreneurship ecosystem that play a role.

Business centres are a key player. There are 24 business centres, one for each of the 24 administrative areas in Tunisia and they have several functions. First, they provide free coaching and consulting. The business centre is the first port of call that can help businesses at the start-up stage. Graduates and those that come out from vocational training are the target market. They are coached, assisted and participate in expert sessions. In parallel, they prepare the business plan, which has to be bankable. Second, the business centres help them with financing by providing microcredit. Third, the business centres help create networks with representatives from various administrative bodies and banks, experts (consultants) in business creation, and accountants, bailiffs and real estate agents .All of the business centres are managed by the Ministry of Industry with the aim of coaching and accompanying entrepreneurs to develop new start-up projects.

Business centres are active in marketing themselves in universities with awareness campaigns and the provision of seminars every two months. However, given this close interaction, it is surprising that there are no special relationships between the business centres and the universities.

Another key stakeholder is the chamber of commerce. The chamber provides help and assistance to young entrepreneurs by offering them the possibility to attend all their activities for entrepreneurs and encouraging and facilitating their presence at exhibitions. The chambers may offer special prizes and information sessions for young entrepreneurs.

Incubators and technoparks also have a role in the entrepreneurship education system. There are currently 27 incubators nationally. Coaches from the university sector are provided to each of these incubators. The incubators include animators, access to a network of Tunisian and international experts, incubator spaces and other facilities.

There are also several technoparks, which provide space for larger technology-oriented enterprises.

Private sources of funding for business start-up are also available. This, includes the Bank for the Development of SMEs, which funds projects between 100.000 and 10 million dinars and can make additional investments in equipment in civil engineering, software certification and R&D. It does not require guarantee or collateral but the National Guarantee Scheme backs its support, while the credit is co-financed with local banks. The bank also has links with universities, for example attending exhibitions and start-up weekend events.

Government entrepreneurship strategy

A weakness of the existing arrangements for graduate entrepreneurship support in Tunisia is that there is no clear vision from the government about the question of what entrepreneurship is for; is it about dealing with the unemployed, creating growth, developing employability and life skills or all three. This needs to be clarified as the different missions can, if not managed properly, be in conflict with each other and create confusion amongst those they are targeting for support. This change takes time and strategies are slowly being put into place. It is not only the Ministry of Industry that is focused on this; other ministries have the same goal of encouraging entrepreneurship in general. For example, the Ministry of Employment has a programme called HOPE, in which unemployed graduates are targeted for start-up support.

The government plays a role in co-ordinating certain aspects of the entrepreneurship system. A government commission on entrepreneurship education has been established and is composed of representatives from higher education and government ministries. This can play an important role in setting the framework for future university entrepreneurship support arrangements.

A problem in the past has been that objectives have been set for new business creation from universities without adequate training and preparation for entrepreneurship teachers, support for student entrepreneurs and incentives for stakeholders to participate.

3.3. Recommendations

A clear vision needs to be provided by the Tunisian government about the question of what entrepreneurship is for. In addition, there is a need for a national graduate entrepreneurship platform.

Compulsory enterprise education can be perceived as an advantage for higher education and the Tunisian economy but there remains the question of whether it loses its value if not managed properly. Three compulsory modules may be too many. It may be preferable to have only one introductory compulsory module, followed by two optional modules which are more focused on starting a business. In addition, entrepreneurship education should start earlier, in kindergarten and primary school.

In addition to a general 'programme for all', there also needs to be an elite country wide programme for the best graduates to start up their businesses, which would focus on those plans that have the ability to be 'born-global' firms with international aspirations.

No evaluation is being carried out on the impact of the programmes. This needs to be built into the entrepreneurship education system as a matter of urgency to enable successful interventions to be measured at a national and local level.

There is a disconnection between different agencies involved in enterprise support across and within different organisations in government, higher education and industry. For example, there seems to be little collaboration between ministries and support organisations and only informal collaboration between individuals at an institutional level within universities. There is an urgent need to design support services based on a shared view across ministries that minimises duplication and optimises economic and social

value. In addition, the Tunisian government could support a network of entrepreneurship champions within each academic institution who act as the focal point for collaboration with different bodies, organise training of entrepreneurship lecturers, and manage the enterprise clubs internally. These individuals could also strengthen co-operation between business centres and academic institutions.

The emerging business angel networks should be strengthened and the entrepreneurial diaspora overseas should be tapped into for finance and role models and mentoring and networking.

3.4. International learning models

Go Wales, United Kingdom

Go Wales is a scheme run by the Higher Education Funding Council for Wales. It makes it possible for students and graduates to develop their careers in Wales through quality work experience and training opportunities with businesses.

The project contributes significantly to the development of a knowledge economy in Wales; businesses have access to higher-level skills and fresh ideas to support growth and development.

The flagship programme is called *Work Placements for Employers*. This offers businesses the opportunity to employ someone with a degree (or studying for a degree) to complete a project within 10 weeks. Placements are primarily aimed at SMEs, as small businesses often do not have the time or resources to develop ideas and new projects and sometimes do not have the necessary specialist skills to complete a specific task. By hosting a placement, a small business can access the skills and benefit from the enthusiasm of a student or graduate.

Each business taking part in the scheme receives:

- A choice of high quality students and graduates;
- People with specific knowledge and skills that can add value to the business;
- A 6-10 week project completed;
- Funding towards salary costs – up to 950 GBP;
- A chance to see if the company can benefit permanently from graduate skills.

Between 2009 and 2011, 1413 students and graduates have secured paid Go Wales work placements with businesses in Wales. More importantly, 65% of students and graduates on placement were offered longer-term work with the host placement company or another SME once the work placement had ended.

Another key programme is *Work Tasters*. These are short, flexible, unpaid periods of work experience designed to help undergraduates gain an insight into a particular business sector or career. Work tasters have been designed to assist undergraduates studying in Wales to gain quality work experience of their chosen career. University students and graduates are matched with local organisations for periods of experience lasting between 3-10 days or 17-70 hours.

For businesses that get in involved in the programme, hosting a work taster brings several benefits. They receive:

- The opportunity to offer a student the chance to learn about an industry;

- The chance to help a student make an informed career choice;

- The chance to showcase a company's choice of work to potential recruits;

- The chance to make a difference to a local student.

Wales Youth Entrepreneurship Strategy, United Kingdom

The Youth Entrepreneurship Strategy (YES) in Wales was established in 2004 and is the result of collaboration between key partners across Wales including the Department for Economy and the Department for Education. It aims to equip young people aged 5-25 with entrepreneurial skills and attitudes to raise their aspirations, so they can fulfil their potential whatever they choose to do. Its vision is to develop and nurture self-sufficient, entrepreneurial young people in all communities across Wales, who will contribute positively to economic and social success.

Youth entrepreneurship is about developing a positive and proactive approach to whatever the participants do in life, whether it is setting up a business, working for someone else or doing something in the community. It is about having the confidence and drive to come up with ideas and the initiative and tenacity to carry them through. It enables young people to be positive, proactive and successful in their approach to life and work. The entrepreneurship journey of young people progresses from increased awareness and positive attitudes, to learning entrepreneurial skills, through to practising enterprise.

The strategy has three core strands:

- *Awareness*: Actions are implemented by various public partners for developing an entrepreneurial culture in which ambitions to start a business should become normal and even desirable for young people. Young people should be inspired to think differently about their future and gives them the confidence to consider entrepreneurial opportunities. The programme identifies the skills and attitudes needed, encouraging young people to focus on their own abilities to achieve their ambitions.

- *Learning*: This involves actions for equipping young people with relevant skills, knowledge and experience and ensuring that opportunities exist for young people to develop and utilise entrepreneurial skills. Whether or not young people have an ambition to start their own business, they should nevertheless enter the world of work possessing that entrepreneurial spark, the right attitudes and skills to succeed. Young people should have opportunities to build their understanding of business and the world of work and have the opportunity to put their learning into action through enterprise experiences.

- *Support*: Here the focus is on providing an effective demand-led support infrastructure and providing vital assistance to help young people succeed. Young people will inevitably need to enhance their knowledge and experience before embarking on their business venture. Practical and financial support programmes including mentoring, scholarships, workshops and consultancy, which are delivered by the Welsh Government and partners to assist them through this process.

The strategy was updated in 2010 with a new five year strategy, designed to increase the impetus and address the issues raised by the current economic downturn and the increasing number of young people who are unemployed or economically inactive.

Dynamo Role Models, Wales, United Kingdom

The best way to tell young people about the real life experience of entrepreneurship is to let local entrepreneurs do the talking. In Wales, active and successful entrepreneurs from right across Wales have been recruited to act as Dynamo role models. They are the ones that can best convey to students the exhilaration of being your own boss as they understand the motivations needed to succeed and can encourage pupils to consider these in their own future.

Dynamo role models are all local business owners that epitomize the spirit of entrepreneurship. They reflect the diversity of businesses in the region by demographic profile, by sector and size of business. Over 350 business owners are involved in Dynamo; all trained, experienced and determined to inspire young people and encourage entrepreneurial behaviour in Wales.

Dynamo role models give workshops in universities that explore their motivations, the skills needed, the experiences they had and their winning attitude that helped secure success. Through a Dynamo workshop, role models effectively convey the realism of running a business, the excitement of winning a first contract and the difficulties encountered along the way. They encourage students to think creatively, generate and explore their own business ideas through activities and discussion. By sharing the success of others, they can boost student's entrepreneurial confidence; helping them value their own ideas and talents, and understand more about the route to business start up.

Dynamo role models can:

- Deliver a structured workshop within curriculum time for about an hour;
- Bring academic subjects to life through tutorials and seminars;
- Help students understand a range of entrepreneurial experiences;
- Critique business ideas as judges;
- Give added emphasis to particular vocational areas of study;
- Inspire young people at workshops and events to consider business start up;
- Discuss business ideas and share experiences with students;
- Inspire students and young people who may not be fulfilling their potential;
- Provide essential employer engagement links for a college or university

Enterprise Champions in Higher Education Institutions, Wales, United Kingdom

Enterprise Champions were first introduced into the thirteen Welsh higher education institutions in 2001 as a result of the recommendations of the Entrepreneurship Action Plan for Wales.

At the time, it was generally accepted that entrepreneurship did not form a key part of the strategies of many academic institutions and that, unlike other countries (most notably the USA), the level of graduate entrepreneurship in Wales was comparatively low.

Being fully funded by the Welsh Assembly Government, partly through European Structural Funds, the role of the Enterprise Champions was to initiate and support a culture change in favour of entrepreneurship within Welsh universities through the following activities:

- Carrying out an entrepreneurship audit of the institution;

- Facilitating the piloting of enterprise training;

- Providing or facilitating support including entrepreneurship scholarships for students;

- Linking with commercial managers to provide live projects for trainees;

- Promoting the benefits of entrepreneurship programmes to the institution;

- Facilitating support for new business start-ups by graduates;

- Establishing support networks for local entrepreneurs and students;

- Helping to commercialise the results of the university's intellectual property;

- Assisting institutions to develop their professional services to local businesses;

- Enabling business to access new technology developed in universities.

There was to be one Enterprise Champion per institution with an average annual budget of EUR 100.000 with annual targets established by the Welsh Assembly Government for receipt of this funding.

These were determined on a number of criteria, including number of attendees of accredited and non-accredited enterprise education options; number of recipients of business support services provided by the institution; number of academic staff trained; number of student graduate bursaries awarded; number of hours of additional entrepreneurship education resources developed; and number of enterprise clubs established for students and graduates.

Initially, the role of the enterprise champion was to be taken by a senior person within the university with a direct line management responsibility to a pro-vice chancellor, and the initial job was advertised as such. However, in reality, lower ranked members of staff have taken many positions and therefore there has been limited success in integrating entrepreneurship fully into the strategy of a number of institutions. This is a vital lesson for Tunisia; if such a role is to be taken within Tunisian universities, then an individual who has the position to influence strategic change within the organisation must undertake it.

CHAPTER 4: STIMULATING AND MANAGING ORGANISATIONAL CHANGE IN HIGHER EDUCATION INSTITUTIONS AND THE ROLE OF PARTNERSHIPS

4.1. Introduction

The role of education in contemporary societies and economies

Increasingly, the wealth of countries, and their capacity for growth depend on the application of relatively high level knowledge; so called 'knowledge sectors', and 'knowledge clusters' are widely encouraged in economic development strategies and have featured in Tunisian economic development in the past. It is worth noting that to increasing extents, such forms of economic activity are not constrained by geographic boundaries and borders – they are based on the proliferation of virtual and physical collaboration. One could argue that they are based on forms of knowledge exchange – which themselves resemble partnership working in action.

International observers and policymakers in education[2] often describe the confluence of factors which make learning, creativity and the ability to 'out-think-the-competition' increasingly significant. Professor Ken Robinson implies that there is a paradigm shift in hand as countries try to understand how to educate their children for the 21st century; when the nature of those needs is changing so rapidly, it is hard to see what is needed now, let alone in the future. The capacity to learn at a rate that is faster than the rate of change is partly driven by trends and factors like the prevalence of use of new technologies and development in their applications based on the worldwide web[3]. In the field of education, other trends are worth noting, including:

- the world wide prevalence amongst significant populations of basic competency in core and basic skills – including English competency;

- the recognition of the economic importance of creativity and innovation;

- the need for education systems and educational experience to promote and incentivise divergent, rather than convergent thinking;

- the speed of knowledge creation and the related transferability of learning.

All of these factors contribute to the point of view that there is an urgent need for individuals, companies, organisations, and countries to learn at a rate faster than the rate of change. Given these trends, it is plausible to suggest that higher education is not only a major international sector of the Tunisian economy in its own right – but also a major source of much of the knowhow and research that feeds into the plausible creation of knowledge based sectors, and the future competitive capacity of any national economy, including that of Tunisia.

---

[2] For example see Professor Ken Robinson on RSA animate on Changing Education Paradigms
http://www.youtube.com/watch?v=zDZFcDGpL4U

[3] See Eric Schmidt (in various settings as CEO of Google) describing how the current generation of children, as adults will 'either be asleep, or on line'.

A further factor is worth noting in relation to the role of education – that of collaboration. Views differ on this – some see a very close connection between innovation and informal association[4]; others see a very close connection between innovation, growth and collaboration[5]. Whatever, your standpoint, there is a clear consensus over the value in better relating the 'habits' of learning institutions and systems to their 'habitats', their context. This better, closer, more involved relationship between the 'inside' of organisations like universities, and the 'outside' of the world in which they 'live' is at the heart of partnership working. Partnerships therefore will be needed at various scales for universities to evolve in their graduate entrepreneurship support.

The role and function of partnerships in (bringing about) change

'The notion of partnership is one of 'working together to mutual benefit'. In economic life, partnerships take many forms – some formal (and governed by law); and some informal (and governed by mutual consent and custom and practice).

One of the truisms of partnership is that people and organisations tend to join forces with another person or organisation in order to change the other to be 'more-like-them', and do not expect themselves to change. This might be the point of view of one party, and also the view of the other party. So, partnerships are often characterised by at least two parties neither of whom expects to change, but each of whom expects to change the other. This is often the unstated assumption in the formative stages of a partnership.

Experience tends to suggest that partnerships are effective and lasting, however, when both parties are changed to mutual benefit. This model[6] illustrates the spectrum of integration that captures the degrees of openness to influence in partnerships.

---

[4] See http://www.nytimes.com/2012/01/15/opinion/sunday/the-rise-of-the-new-groupthink.html?_r=2&ref=opinion&pagewanted=all

[5] See earlier Ken Robinson reference and his assertion that 'collaboration is the stuff of growth'

[6] Based on work with 30+ multi party partnerships in England (2007-2010)

Figure 4.1. Degrees of openness to influence in partnerships

Co-existence	Co-operation	Co-ordination	Collaboration	Co-ownership
"You stay on your turf – I'll stay on mine"	"We'll lend you a hand when our work is done"	"We need to adjust what we do to avoid overlap and confusion"	"We'll work together on this"	"We feel totally responsible"
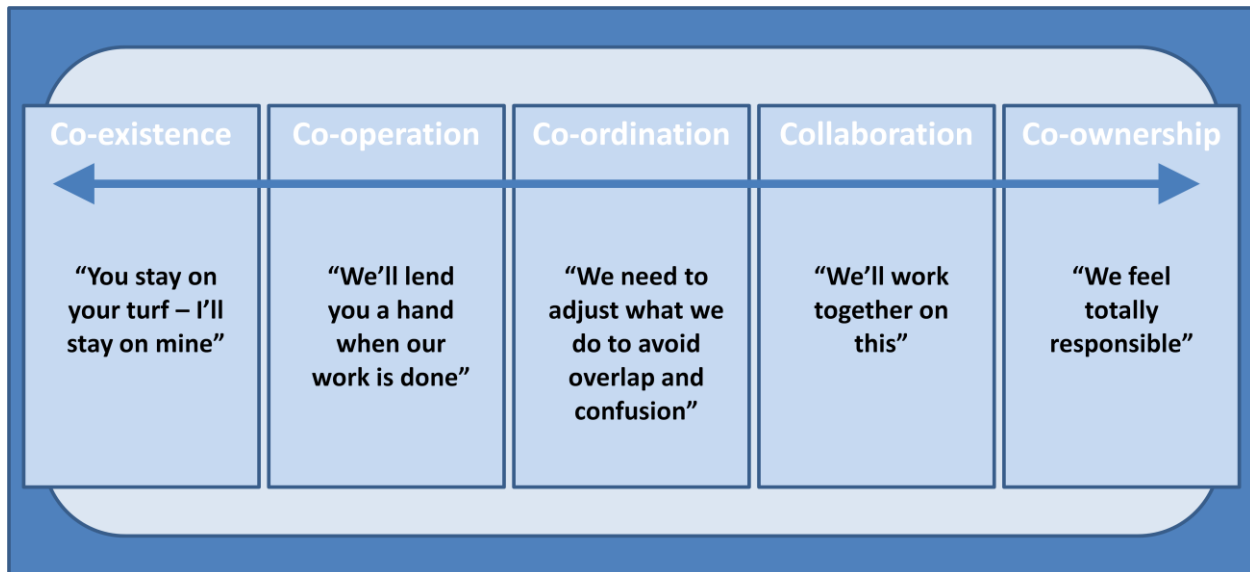
Source: Employers' Organisation Smarter Partnership Website

Viewed psychologically, partnership is an encounter with 'another' – another value system, another point of view, another entity. The encounter can take various forms – orderly, or shocking, for example – but the theory of partnership in organisational changes, suggests that the encounter with the other brings about change in ways which would not otherwise happen (either in extent or character). So, for example, a partnership might mean that a very different type of change is brought about, or the expected (hoped for) change happens sooner, and lasts for longer.

So, at the core of the theory about 'partnership-and-change' is the proposition that through the 'encounter-with-the-other', the conditions for change are brought about. Jointly, there is more potential for innovation. And intrinsic to this greater potential is 'disruption' – 'shock' and forced 'unfreezing'. This type of change will be required in Tunisian universities in order to fully implement the type of collaborations among university faculties, across universities, with economic development support structures and with businesses that will promote entrepreneurship among graduates.

4.2. The role and nature of partnerships in higher education

'Partnership' is a widely – and sometimes confusingly – used term. It is worth trying to define the different types of partnership that are relevant for universities. There are several ways of doing this.

In Canada, Frank and Smith (1997)[7], have suggested four classifications for business-education partnerships based on the process the partnership employs. They found that most business-education partnerships could be categorised into one of the four following classifications:

---

[7] Frank, Flo, and Anne Smith. The Partnership Handbook. Ottawa: Human Resources Development Canada, 2000. PDF accessed February 2012 ISBN 0-662-28881-5.

- **Consultative partnerships** are for the purpose of receiving public input around change or to gather ideas for policies.

- **Contributory partnerships** are formed to benefit an organisation or the community.

- **Operational partnerships** are work-sharing arrangements in which the components of a given task are delegated to specific parties.

- **Collaborative partnerships** are set up to share resources, risks and decision-making.

Partnerships can exist at different levels, and in different degrees of complexity. There is good evidence from the experience of developing partnerships in Europe and the USA that they can vary both by scope and by spatial level. In terms of spatial level, partnerships are active at all these levels:

- International and national;

- Regional and local; and

- Neighbourhood.

But it is rare for a successful partnership to be active at more than one of these spatial scales. They may appear to be – but that is often, in fact, a function of a system of partnerships having been developed, or a network of networks.

Table 1 shows a typology of partnerships based on their scope and structure, as distinct from their spatial level of activity.

Table 4.1. Typology of partnerships

Types	Defining Characteristics	What This Type Does Well	What This Type Does With Difficulty
Strategic alliance	• Loose structure • Broad agenda – indeed part of its purpose is to develop a Vision and an agenda • Often political	• Synthesises issues into vision • Raises profile around a theme or an geographic area • Develop strategic intent • Helps raise (public) resources	• Delivers project activity • Makes difficult decisions, tends to seek consensus • Bring about change in its members
Joint venture project	• Formal structure • Project specific • Time limited • Limited membership	• Single outcome delivery • Resource planning • Focus on objectives, inputs and responsibilities	• Developing strategy • Accommodating representatives •
Joint venture company	• Limited liability • Separate ownership/ executive • Formal structure	• Managing partner risk • Strong executive action • Helps raise (private) resources • Managing resources •	• Generating strategy on behalf of others • Managing growth • Expanding its 'ownership'
Network	• Loose association • Equality of status • Widespread membership (formal or informal)	• Information exchange • Lobbying/influencing • Consultation • Building relationships for future projects • Co-ordination	• Managing resources • Winning resources • Acting strategically
Process partnership (eg partnership sourcing)	• Highly-structured usually at customer/funder instigation • Raising quality standards • Cost control	• Product and service innovation • Long term service relationships • Managing change • Quality assurance	• Strategy development • Consensus • Respond to political pressures
Pressure/campaign group	• Wide membership • Single focus • Politicised	• Winning resources • Achieving political change • Engaging voluntary support	• Managing resources • Relating to other groups with different aims • Delivering results

4.3. The Tunisian context

A rapid assessment of the state of health in partnership working

It is possible to make some broad observations about the nature of partnership working by Tunisian universities, whilst stressing that the context is changeable. We discuss these observations under five headings, the:

- Spatial scale of partnerships;

- Variety – by process and role;

- Their type – in terms of structure;

- Their scope – in terms of policy focus and added value;

- Their reach – in terms of change ambition.

Spatial scale of partnerships

The spatial scale of partnership working in Tunisian universities can be broadly characterised as follows:

- Most university partnerships are local;

- Very few partnerships seem to reach into neighbourhoods (where, for example, there might be a concentration of businesses in a commercial zone);

- There are isolated examples of international partnerships – but there are rarely institution to institution; they tend to be based on relationships between individuals at a Tunisian University, and individuals at, for example, a French or American university;

- The majority of universities in Tunisia have ambition to develop their regional role and presence, subject to the prominence of regional strategy in the economic policy of the national government.

Variety – by purpose and role

In terms of the purpose and role of partnerships in which universities are involved:

- The picture is mixed – but there is a clear trend towards 'co-existence' and 'co-operation', rather than the deeper forms of integration and joint working. The strongest form of integrations were 'co-ordination' ('adjusting what we do to avoid overlap and confusion').

- Almost none of the university partnerships have a clear sense of their 'customer'. There are exceptions to this – for example the Club des Etudiants pour la Culture Creation d'Entreprises[8] in Sousse. This has university endorsement, but exists outside the University of Sousse's management systems.

- Most university partnerships are either 'consultative' or 'contributory', with less emphasis than might be expected – given the policy emphasis on entrepreneurship – to 'operational' or 'collaborative' partnerships.

---

[8] www.facebook.com/L.GARZOUN?sk=wall

- These points apply to partnerships where the university is partnering with organisations external to the university as much as to intra university partnerships, and partnership between faculties (and senior staff) within the same university. The concept of 'competitive advantage' is more prevalent than 'collaborative advantage', over-looking much of the contemporary research into motivation and drive[9]. A mix of autonomy and higher purpose for the entrepreneurship role and activities in universities is likely to be what animates change.

Type – structure of partnerships

In terms of the structure of partnerships in which universities are involved:

- To some extent our findings on this aspect of university partnerships in Tunisia is influenced by the legal climate, and legal powers. However, most partnerships are structured around loose networks;

- There is ambition to develop 'strategic alliances';

- There are very few examples of other 'structural types', especially joint ventures (which would seem like a natural form of partnership for a university);

- There are some examples of 'process partnerships', mainly confined to placement and recruitment arrangements (e.g. companies based in the incubator centres in, for example, Sousse and Jendouba, expect to recruit graduates from their respective universities to work in their enterprises);

- There are few knowledge based process partnerships, where the knowledge produced by a university through research is the basis of a partnership (governed by some kind of intellectual property protection) with a company.

Scope – policy focus and added value of partnerships

In terms of policy focus and added value of partnerships in which universities are involved:

- This aspect of university partnerships is in flux;

- The dominant policy priority for partnerships is the reduction of graduate unemployment (or the increase in graduate employability);

- At the margins, there are partnerships (usually international, and usually between individual academics) for knowledge and soft technology transfer;

- There are limited instances of collaboration between universities in partnership, e.g. the Universities of Sousse and Sfax both collaborate on the Summer School for Entrepreneurship.

Reach – change ambition of partnerships

While difficult to assess, the following can be suggested in terms of the change ambition of partnerships in which universities are involved:

- The national context for higher education policy and the significance of enterprise and partnerships in that is not yet stabilised (in our change terminology, there has not yet been a 're-freeze').

---

[9] Amongst others Dan Pink on 'what motivates us?' http://www.youtube.com/watch?v=u6XAPnuFjJc

- Many universities would welcome greater autonomy and a more distinct role for regional strategy in economic and employment policy in which universities may become 'beacons' of support to economic growth. So aspiration is strong and ambitious, but the actual translation of this into action has yet to happen. Partnership is implicit in this vision of the role of universities, but it was more energetically articulated by prospective partners outside the universities, than by the universities themselves.

- The local ambition of universities includes developing research capability, reducing graduate unemployment and improving relationships with employers, usually as part of the preparation for the world of work. However, there is limited evidence of 'partnership' being seen as a mechanism for achieving these objectives.

- There is evidence of 'brain-storming' around neighbourhood activity and communities of interest. For example, it is often recognised that the stimulation of enterprise needs to begin in schools. Yet concrete opportunities for very local partnership do not seem – yet – to have been acted on. For example, the University of Applied Sciences in Rades is based in an industrial zone where 20% of Tunisia's industry is concentrated – with no partnership links into this community from this higher education institution.

4.4. Recommendations

In order to strengthen the partnership working of universities in Tunisia for the purpose of graduate entrepreneurship support, the following recommendations are offered:

Spatial scale of partnerships

- Encourage universities to play their part in neighbourhood enterprise partnerships or communities of interest in order to create pathways between the university and local companies and groups of entrepreneurs.

- Strengthen local networks between universities and local enterprise support providers on a basis which creates the least possible obstacles for graduates and young businesses to make use of their services, and have access to university resources.

- Develop the regional role of universities in partnerships (subject to national policy on regional economic development).

- Develop national partnership activity between universities and one another; and between major employers and universities.

- Develop international partnership links on an institution to institution basis, which go beyond merely personal relationships between individual academics.

Variety – by purpose and role

- Develop intra university partnership activity – this exists to a limited extent through UVT at the moment; but it should be encouraged much more aggressively, and incentivised – perhaps a condition of greater autonomy could be greater collaboration. [10]

- Encourage universities to develop partnership approaches to working with their customers – and indeed develop an explicit series of understandings about who their customer actually is, and what they might need.

- Push to fuller integration of governance – and encouragement of horizontal accountability rather than vertical accountability.

- Promote widespread, self managed, student led enterprise clubs in every higher education institution, and in some instances within faculties. These clubs themselves should be encouraged to network with one another and their peers in other countries.

- Popularise and promote – there is a huge amount of activity that can be carried out to promote enterprise both within universities, between universities, and in Tunisian culture more generally. This needs to be targeted at graduates and other young people.

Type – structure of partnerships

- Encourage universities to develop joint venture partnerships.

- Set an explicit priority of encouraging the development of networks – in which activity is encouraged between networks in different regions, and internationally.

- Encourage peer to peer, faculty to faculty partnerships e.g. engineering to engineering; arts to arts; languages to languages, across universities.

Scope – policy focus and added value of partnerships

- Develop the capacity of universities to invest in joint venture partnerships

- Develop the role of universities as knowledge producers – using their intellectual property (IP) as investment.

- Develop English language teaching at universities so that it is less literature based and more related to the world of international work.

- Develop the role of universities as leaders of the Tunisian knowledge economy.

- Develop the role of universities as leading organisations and prospective partners in enterprise.

Reach - change ambition of partnerships

- Develop the role of the universities in local economic and employment development – based on a critique of what could universities invest in their local economy.

- Develop criteria for assessing the enterprise and economic development impacts of capital investment by universities.

---

[10] Evidence suggests that greater collaboration is likely to be a by-product of greater autonomy

- Develop the depth and scope of the relationship between universities and local enterprise support providers; and local employers and their representatives.

- Develop a partnership between universities, local enterprise support providers and schools to encourage enterprise from a very early age amongst Tunisian children.

4.5. International learning models

Partnerships as teams

Partnerships as teams display some of the characteristics of group dynamics. They 'live' through a 'life cycle'. It is helpful to think of partnerships going through a series of stages, during which particular tactics are most appropriate to ensuring partnership progress and success. These are similar to the stages[11] that any team is likely to go through, as people come together to achieve common goals.

Figure 4.2. A model of the life cycle of a partnership
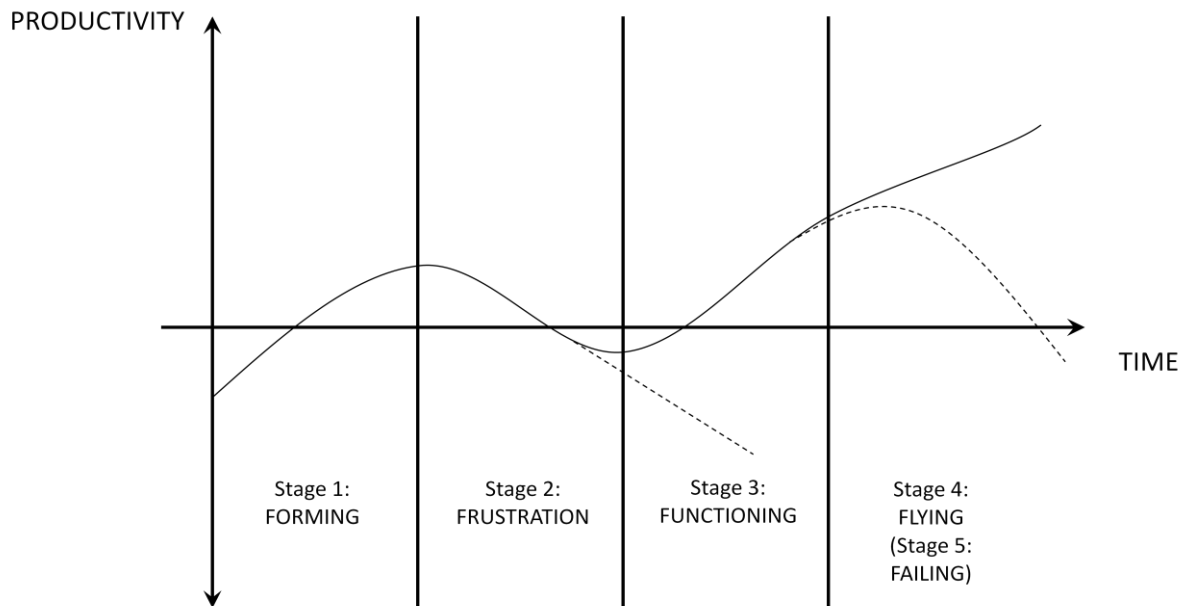
The typical characteristics of each stage include:

1 Forming

- Common cause, arising from shared interests, opportunities, threats.
- Early enthusiasm: new challenge, new relationships.
- Exploring what's needed, what's possible.
- Unclear nature of commitments.

2 Frustration

---

[11] This partnership 'life cycle' model is based on unpublished research with economic regeneration partnerships in London, UK during the 1990's.

- Partners feel "in a fog".

- Disputes or tension over priorities and methods.

- Individuals questioning purpose or the partnership and reasons for being there.

- Hidden agendas influencing what partners do.

- Doubts about what each other brings to the party.

- Partners competing for credit and control.

3   Functioning

- Renewed vision and focus.

- Progress through joint project teams.

- Partners talk in terms of "we" not "you".

- Clear roles and responsibilities.

- Full accountability to each other for actions.

4   Flying

- Successful achievement of partnership goals.

- Shared leadership.

- Partners changing what they do and how they do it to achieve partnership objectives.

- Trust and mutual respect.

- Partnership priorities more central to partner activities.

5   Failing

- Disengagement.
- Lack of commitment.
- Recurrent tensions.
- Breakdown or frittering away of relationships.

Some partnerships may never get beyond Stage 2 - Frustration, and may skip directly to Stage 5 - Failing, where the partnership disintegrates, for example for want of a sufficient common cause, changes in people involved or a failure to work at partnership. In their publication *Making Sense of Change Management*[12], Cameron and Green provide a summary of a series of differing models for understanding the dynamics of teams as shown in table 4.2 – in addition to the one we which informed the partnership life cycle. Each of these could apply to partnerships, as a model for a life cycle, as well.

---

[12] Making Sense of Change Management 2004 Kogan Page

Table 4.2. Models for understanding the dynamics of team formation

Tuckman (1965)	**Forming** Attempt at establishing primary purpose, structure, roles, leader, task and process relationships, and boundaries of the team		**Storming** Arising and dealing of conflicts surrounding key questions from forming stage		**Norming** Setting down of team dynamic and stepping into team norms and agreed ways of working		**Performing** Team is now ready and enabled to focus primarily on its task while attending to individual and team maintenance needs
Schutz (1982)	**In or out** Members decide whether they are part of the team or not		**Top or bottom** Focus on who has power and Authority within the team		**Near or far** Finding levels of commitment and engagement within their roles		
Modlin and Faris (1956)	**Structuralism** Attempt to recreate previous power within new team structures	**Unrest** Attempt to resolve power and interpersonal issues		**Change** Roles emerge based on task and people needs Sense of team emerges		**Integration** Team purpose and structure emerge and accepted, action towards team goals	
Whittaker (1970)	**Preaffiliation** Sense on unease, unsure of team engagement, which is superficial	**Power and control** Focus on who has power and authority within the team Attempt to define roles		**Intimacy** Team begins to commit to task and engage with one another		**Differentiation** Ability to be clear about individual roles and interactions become workmanlike	
Hill and Gruner (1973)	**Orientation** Structure sought		**Exploration** Exploration around team roles and relations		**Production** Clarity of team roles and team cohesion		
Bion (1961)	**Dependency** Team members invest the leaders with all the power and authority		**Fight or flight** Team members challenge the leaders or other members Team members withdraw		**Pairing** Team members form pairings in an attempt to resolve their anxieties		
Scott Peck (1990)	**Pseudommunity** Members try to fake teamliness	**Chaos** Attempt to establish pecking order and team norms		**Emptiness** Giving up of expectations, assumptions and hope of achieving anything		**Community** Acceptance of each other and focus on the task	

It is important to be aware of these stages of partnership development and to take measures that will help overcome the problems that may arise at each stage in order to move the partnership forward to stage 4 – flying.

References

Bion, WR (1961), *Experiences in Groups and other Papers*, Tavistock Publications, London

Hill, WF and Gruner, L (1973), "A study of development in small group behavior", *Small Group Behaviour*, 4, pp 35-82

Modlin, H and Faris, M (1956), "Group Adaptation and interaction on psychiatric team practice", *Psychiatry*, 19, pp 97-103

Schultz, W (1982), *Elements of Encounter*, Irvington Publishers, New York

Scott Peck, M (1990), *The Different Drum, Community-making and peace*, Arrow, London

Tuckman, B (1965), "Development sequences in small groups", *Psychological Bulletin*, 63, pp 384-99

Whittaker, J (1970), "Models of group development: implications for social group work practice", *Social Science Review*, 44 (3)

CHAPTER 5: ENTREPRENEURSHIP EDUCATION

5.1. The objectives, contents and methods of entrepreneurship education

Before making an assessment of entrepreneurship education arrangements in Tunisian universities it is helpful to consider how entrepreneurship education is undertaken internationally. This is done with reference to a literature review of key documentation from the last 25 years and a survey of 35 experts and teacher-researchers working in entrepreneurship education across the different OECD member countries. [13]

The objectives

Entrepreneurship education programmes in OECD member countries cover a large spectrum of objectives ranging from fostering the entrepreneurial spirit to the socio-economic development of a region. The objectives of these trainings are manifold, responding to the expectations of many stakeholders: educators, researchers, students, institutions, economic and political decision makers, etc.

In certain countries (e.g. Poland, Italy and the Czech Republic), the focus is placed on economic development, business creation and creation of new jobs. Tunisia seems to correspond largely to this first set of objectives. In other countries, such as the USA, entrepreneurship education is more oriented toward the stimulation of entrepreneurial projects promoting growth. Finally, in a third category of countries (e.g. Denmark, the United Kingdom) the fundamental aim is related to developing the entrepreneurial spirit and to providing students with the necessary (entrepreneurial) capacities for action in an environment characterised by insecurity and extreme complexity.

The contents

Entrepreneurship education and its contents follow two main logics, which either privilege the learning by doing approach (it is by creating a company that one learns how to create a company) or the subject matter itself, the different views on entrepreneurship and entrepreneurs.

The great majority of programmes consider entrepreneurship as a process and therefore offer contents related to the establishing of a business plan, the identification, evaluation and development of business opportunities, to the creation of a business, the development of new products or services, etc. Functional approaches are generally offered, mainly in the fields of marketing, finance and law. Sometimes, insights on industrial property and technology complete this approach. The "human resource management" dimension is clearly less strongly represented in these functional programmes.

Those courses and approaches that consider entrepreneurship as a study subject rather than as a process adopt macro-economic and socio-cultural perspectives: the economic and social functions of the entrepreneur, the role of entrepreneurship in the economy, the determining elements in entrepreneurship, etc. In certain cases, the context is taken into account, as shown in this course title: "The Italian Entrepreneur: between individualism and creativity".

---

[13] Byrne J. et Fayolle A. (2010), « Entrepreneurship Education in Higher Education Institutions », Working Paper OECD.

Generally, entrepreneurship education is tending to emancipate itself from the American model and trying to integrate itself more and more into its national or even regional contexts, even though this evolution is slow.

Overall, entrepreneurship education today seems to be more in line with a device that "fabricates or produces enterprises" rather than being a "factory producing entrepreneurs". This statement is related to the fact that there are only a few courses on the so-called "*soft skills*" such as entrepreneurial behaviour, entrepreneurial competences, creativity, leadership, negotiation, team building, self-knowledge, etc; that are associated with stimulating entrepreneurs as opposed to the processes of starting a company.

Methods and pedagogy

It is not surprising that active pedagogies are those most commonly used in the field of entrepreneurship education. They particularly aim to involve students in group work centred on problem solving strategies and project development. In these pedagogical situations, students learn by doing, through experience, interactive approaches and by assuming responsibility. Often presentations and business plan contests are organized, which are then evaluated by entrepreneurs and business creation specialists. Less frequently, active pedagogy may also consist of case studies, fieldwork, meetings with entrepreneurs, visits to business incubators, interviews or the organization of round tables or events related to entrepreneurship.

These methods are used in conjunction with more traditional but less appreciated pedagogies such as courses with a more classic format, which use theoretical lectures, reading and discussing research papers or texts.

Finally and more recently, pedagogies based on new technologies have been introduced: internet, exchange platforms and videos that may complement the already mentioned approaches and facilitate distance learning at least of part of the programmes.

Review of the scientific documentation of the last 25 years

A recent study has identified approximately 100 articles published between 1984-2011 in reference journals dealing with entrepreneurship and education[14]. Through the analysis of these publications, five main themes can be identified: key problems, audiences and their specific needs, assessment of education programmes, entrepreneurial learning, methods and pedagogies.

This work shows that our knowledge in the field of education and entrepreneurship is still very limited and that the transfer of research data to educational practices is far from being guaranteed. Research work dealing with both entrepreneurship and education suffers from a lack of legitimacy and theoretical solidity.

Considering the important gap between the contents of education programmes and the real needs of entrepreneurs involved in the process of business creation, one conclusion of this work is to encourage active collaboration between researchers, educators, entrepreneurs and practitioners.

---

[14] Byrne J., Fayolle A., Toutain O. (2012), « Entrepreneurship Education : What We Know, What We Need to Know », Working Paper EM Lyon Business School.

5.2. Tunisian universities and their context

An imbalance between supply and demand for higher education graduates

In recent years, the imbalance between the supply of and the demand for university graduates has considerably increased. On the quantitative side, this imbalance may be explained by too large a number of graduates and on the qualitative side, by the mismatch between their qualifications and the needs and requirements of the economy and society. It is this situation that has led the government to adopt incentives and policies to help university graduates to create new businesses. In addition it has adopted policies aimed at:

- Developing the entrepreneurial leadership and the personal efficiency of the students.

- Professionalising higher education (the so-called "licences co-construites").

- Developing entrepreneurial leadership and entrepreneurial culture through regional workshops, business plan contests (contests with the participation of the Ministries of Education, Employment and Industry respectively), entrepreneurial ideas contests and the participation of universities in the Global Entrepreneurship Week.

Political changes in the universities and with respect to their governance

Political changes have also taken place within the universities and with respect to their governance. Practically all university presidents, deans of faculty and directors of learning institutions and schools were replaced after the elections during the summer of 2011. Some of these changes may have a negative impact on the policies initiated in the field of entrepreneurship. This is notably the case at the University of Sfax where entrepreneurship had been strongly encouraged and supported by the former rector. Instability in higher education is occurring alongside a more general instability of the political institutions at this time. Many officials at university or institutional level spend a lot of time trying to deal with the claims and complaints presented by the administrative staff, teachers and students.

At this time of change, Tunisian universities are penalised by deficiencies, which hamper the introduction of new policies in the field of entrepreneurship and reduce the impact of existing policies. Among these deficiencies are:

- Lack of tradition in working and collaborating with businesses and limited cooperation between universities and other socio-economic actors.

- Competition between the universities and a low propensity to share and pool despite the fact that the lack of resources should encourage research institutions to cooperate.

- Distance learning is little developed in Tunisia despite the existence of the Virtual University of Tunis.

- Difficulty in positioning support structures for business start-ups: business centres, business incubators, enterprise spaces, etc. These structures are often a field of competition between the different ministries that encourage and financially support them.

Increased university autonomy

Under the political and social changes that are currently imposing their rhythm on the country's life, universities are encouraged to become more autonomous and less dependent on the central government administration. However, so far, little has been done to reach this objective. In the recent past, university

strategies, especially in the field of entrepreneurship, were introduced through a top-down approach, by which everything was decided at the level of the Ministry of Education. In general, the universities still function according to these strategies. This mode of functioning makes the necessary adaptation of policies to the specificities of the regions in which universities operate more problematic.

5.3 Entrepreneurship education: strengths and weaknesses

Generalisation of entrepreneurship education through modules on entrepreneurial culture is a positive characteristic rarely seen in other countries …

The provision of entrepreneurship education through modules on entrepreneurial culture at all the faculties and higher education institutions in Tunisian universities is a positive feature of the Tunisian higher education system that is rarely seen in other countries. These modules are offered to students enrolled in programmes leading to the university bachelor degree and their compulsory character has led to the involvement of a huge number of teachers and professors. For example, the University of Sfax asserts that more than one hundred teachers take part in activities related to entrepreneurship education.

… still, the top-down strategy developed by the former political system is very limited

These limits are also underlined by the work of the National Steering Commission on Entrepreneurship Education. The preliminary work of this commission identified the following weaknesses:

- Confusions related to the titles of the modules;

- Lack of specialised trainers/instructors;

- Very heterogeneous and often unsuitable contents;

- Lack of tools and appropriate pedagogical resources;

- Unsuitable pedagogy (ex-cathedra teaching);

- Difficulties relating the subjects taught to the (regional, national) Tunisian context;

- Lack of inter-institution and inter-university coordination.

These limits appear to have led to de-motivation of some students and to problematic performances by some teachers.

In particular, the limits of the current approach are related to:

- Inexperience of the faculty members/teachers who try their best but who are not familiar with the problems, the literature and sometimes even lack the basic pedagogical tools (if they come from outside of the university).

- Little or no impact on the students, which sometimes reflects a lack of interest for the subject and the phenomenon.

- Overly academic contents, which do not include enough professional input (knowledge and know-how).

The object of entrepreneurship education is poorly defined

The object of entrepreneurship education is poorly defined. The various actors adopt different concepts, which vary according to the state of their knowledge and the level of their experience. Consequently, the definition of the educational object varies from one person to the other, each person teaching entrepreneurship in his or her own way. The subject matter is split up and taught in different management courses; entrepreneurship education is mixed up with courses such as business economics, project management or project assessment.

There is also confusion between entrepreneurship and enterprise (business, company) and between entrepreneurship culture and business knowledge. For example, one coordinator in charge of these modules told us that it was not necessary to have a degree in management or business economics to teach entrepreneurial culture, while another person thought that this type of education was affiliated with a general course on management (meaning it being superficial) and business economics.

The objectives stated for entrepreneurship education are also very variable even for identical modules and are presented in varying forms by the people we have met. For example, one teacher saw the objective as being "to motivate students to be more active or become an entrepreneur", whereas another saw the objective as about "preparing students to their professional lives.

Entrepreneurship education is disconnected from entrepreneurship research and little research has been undertaken in the field of entrepreneurship education.

An education with little attractiveness

As an academic discipline, entrepreneurship in Tunisia has a low status and legitimacy or no legitimacy at all: courses are entrusted to newcomers, often contract teachers, only a few confirmed professors have decided to position themselves in this field, diploma programmes accept students who have not been accepted elsewhere, etc.

Furthermore, there are no specific incentives for teaching entrepreneurship or for participating in its development: there is no budget dedicated by the Ministry and no autonomy for its promotion. At the moment, incentives given to the teachers/faculty members are not financial. One appeals to their commitment as citizens with respect to the educational system, the region or the country. This type of incentive may work in the short term and during a post-revolution period, but in the long run, problems will inevitably occur (and are already occurring).

*A **highly appreciated annual business plan contest but with low start-up impact***

The contests for the best business plan and the best entrepreneurial ideas find the interest of students in Tunisia as everywhere else in the world and help to spread the culture of business creation. In Jendouba, for example, students at the department of social sciences and humanities particularly appreciate this approach.

The idea to make students work in teams on projects for business creation is appealing; however, its impact on business creation is limited. Even though the main objective of such projects is not the creation of businesses, nevertheless at most international universities where business plan contests have been proposed to students, the impact on business creation was non-negligible.

Insufficient inter-disciplinarity

Entrepreneurship is a discipline enriched by the input of different disciplines such as management sciences, economics, humanities and social sciences. Inter-disciplinarity therefore is an important dimension of entrepreneurship education. However, the fact that university faculties have high levels of autonomy is a fundamental obstacle to interdisciplinary activities and student mobility. There is a need for collaboration spaces within the entrepreneurship education programmes and training activities. The contests for the best business plan and the best entrepreneurial ideas might be such a space. In the same way, research projects and programmes centred on entrepreneurship education might attract researchers from different disciplines interested in the same subjects or in certain research problems.

Lack of assessment tools

The impact of entrepreneurship education on its various possible objectives is not currently evaluated: the development of an entrepreneurial spirit, of entrepreneurial competence, the acquisition of knowledge useful for entrepreneurial action, business creation, etc. There are few statistics, few follow-up systems for the students, and little knowledge of the medium or long-term effects. This is a crucial point. Without assessment, it is impossible to measure the relevance, the coherence, the effectiveness and the efficiency of entrepreneurship education. Without assessment, it is difficult to adapt and to further develop education to make it more compatible with the expectations and the characteristics of the different audiences concerned. Without assessment, it is impossible to experiment with pedagogical tools and assess how far they are in line with the economic and social as well as the local and national challenges.

5.4. Recommendations

Recommendations can be developed on two levels, national level recommendations related to the creation of a strategy and structures at national level that will form a framework of incentives for entrepreneurship education, and university level recommendations, which involve the development of their own strategies and structures. Recommendations at each level are set out below.

A national framework

Develop a national strategy for entrepreneurship education in higher education.

In its early work, the National Steering Commission on Entrepreneurship Education in Higher Education favoured the set-up and implementation of a strategy for entrepreneurship education in higher education aimed at the development of an entrepreneurial spirit and entrepreneurial behaviour. The Commission argued that this strategy should privilege the adoption of innovative pedagogical approaches and allow the labelling and/or certification of good practices and of the teachers or professors. The Commission added that this structuring strategy should:

- Capitalise on the training programmes and the experiences of Tunisian universities;
- Consider the regional specificities of the universities;
- Take into account international policies and directives.

We share this point of view and think that such a strategy guided by the Ministry of Higher Education and Scientific Research in consultation with all the stakeholders and especially entrepreneurship teachers, would help to consolidate the existing practices. The Commission could certainly also be part of this strategy and play a key role in this process. It might even be enlarged to also include representatives of

entrepreneurship teachers and others representing the different components of the Tunisian higher education system.

Create an Observatory for Pedagogical Practices in Entrepreneurship.

The creation of an Observatory for Pedagogical Practices in Entrepreneurship will be one of the essential tools for this strategy. It would allow for the creation of a database on the entrepreneurship education practices and actors and help reach the above mentioned objectives. The main benefit of such a tool would be to encourage the mutualisation of experiences and the dissemination of good practices.

Create a National Foundation for Entrepreneurship Education.

In order to increase the importance of entrepreneurship education and make it a "national cause" with respect to meeting the socio-economic challenges, a National Foundation for Entrepreneurship Education could be created, which would associate public authorities and the private sector and in particular the business sector and/or the employer organisations. The foundation's aim would be to develop both quantitatively and qualitatively education and research on entrepreneurship. The missions of the Foundation could be centred around the following main challenges:

- Training the trainers and entrepreneurship teachers by privileging diploma programmes issued by internationally highly renowned universities;

- Organising seminars to train teachers for research work and for teaching in the field of entrepreneurship;

- Conducting national studies on key subjects: who are the Tunisian teachers in entrepreneurship? What is the impact of this education on the students? To what degree does entrepreneurship education influence economic development?

- Organising a reward for entrepreneurship-related theses;

- Organising rewards for the best teaching resources, such as case studies and pedagogical innovations.

Create an academic association for entrepreneurship teaching and research.

In addition, the National Steering Commission on Entrepreneurship Education in Higher Education could contribute to the creation of an academic association, which would bring together all teachers and researchers in the field of entrepreneurship and be based on the model of the French *Académie de l'Entrepreneuriat et de l'Innovation* or the British *Institute for Small Business and Entrepreneurship*.

University strategies, structures and actions

The recommendations at university level relate to one of the following dimensions:

- Strategy;

- Institutional infrastructures (association, foundation, chair, pedagogical department, research unit, incubator, technology transfer or spin-off enterprise units, etc.);

- Education and teaching (type of course, compulsory or optional, objectives, methods, favoured audience, etc.);

- Relationships with socio-economic actors;

- Qualitative development (assessment of programmes, training of teacher-researchers, research on practices, etc.);

- Commitment of resources, mainly financial resources.

Strategy

Secure top-down support for the entrepreneurship strategy. The first condition for a university level strategy in the field of developing entrepreneurship to produce an impact within a university is that the rector is convinced of the importance of the subject and the necessity to integrate it in a global strategy. To favour this, seminars could be organised for the rectors and deans of Tunisian universities to discuss the questions and the challenges related to entrepreneurship promotion. These meetings could be held under the auspices of the Ministry of Higher Education and Scientific Research, with the participation of international and national experts.

Relate the university entrepreneurship strategies to the characteristics of their regions. The strategies of the universities could be more clearly related to the economic and social specificities of the regions in which they are located, with a proper balance between the education and research activities at the universities and the possibilities / potentials of the regional environment. One way to put these strategies into practice would be to privilege partnerships with the local businesses and other socio-economic actors to better streamline and guide the training.

Clarify and disseminate entrepreneurship objectives within the university. One of the strategic objectives of the universities could be to better set out the multiple meanings of the entrepreneurship concept and the priorities for the university in this respect. In particular communication and awareness-raising actions could be organised about the meaning of entrepreneurship. This could involve conferences or round tables with renowned national and international personalities, poster campaigns featuring the key messages, special features in the regional or national media guided by the universities, extensive media coverage of the results of the international GEM survey, etc.

Development

Recruit combined entrepreneurship teachers and researchers. They should have the capacity to create research projects, structures and activities useful for entrepreneurship. The projects and the themes of their research should be selected with respect to the university's strategy.

Form teams of teacher-researchers who are particularly interested in education and research in the field of entrepreneurship. If necessary, they should be prepared by encouraging them to follow training for trainers in entrepreneurship and by bringing them in contact with other Tunisian and international teacher-researchers and thereby facilitating the exchange of experience and the circulation of information. One way to enhance their visibility would be to organise these teacher-researchers in one department or in any other structure labelled "entrepreneurship".

Develop training programmes for teachers and researchers in the field of entrepreneurship. This can be done at the national level or at the level of each university. What is important is to organise interactions, consultation and cooperation among teachers and researchers specialised in entrepreneurship through regular meetings or workshops for collective work. These events would allow them to exchange on general problems, present and discuss their research work or invite teachers from other universities to share experiences and best practices.

Education and teaching

Adapt the contents, the resources and the pedagogical methods to the regional specificities and the characteristics of the students in the different education pathways. Context is critical for entrepreneurship. This recommendation therefore is specifically aimed at developing case studies for entrepreneurship teaching that are coherent with the Tunisian environment at both the national and regional levels. It is also recommended to invite entrepreneurs and entrepreneurship professionals as relevant role models. On the student side, programmes could be adapted with regard to the different types of studies (economics, management, engineering, life sciences, literature and humanities) and the level of education (licence, master). In certain cases, programmes could also take into account, in a specific context, the presence of a disadvantaged audience or particular difficulties.

Encourage the use of information and communication technologies. Entrepreneurship education should benefit from the available technological tools. Pedagogical exercises using the internet could be offered to students. These technologies are both a means to increase the dissemination of knowledge and a lever to boost pedagogical methods. The Virtual University of Tunis could be an essential actor with regard to the implementation of this recommendation.

Organise regular awareness-raising actions on entrepreneurship. Awareness-raising actions should be taken with teachers, researchers and students on the creation of entrepreneurship activities and businesses. The message can be communicated by presenting examples and cases of business creation and development within the regions in which the universities are operating. These actions should demonstrate how important entrepreneurship and entrepreneurs are for the development of individuals, economies and societies.

Restructure the entrepreneurship education. Entrepreneurship education should be restructured to find a better balance with regard to contents between theoretical and practical inputs and between academic teachers and professionals from outside the university. The teaching should be adapted to the audience and the specificities of the faculties. In addition the current offer of entrepreneurship courses should be extended by covering all the issues related to business creation (e.g. idea generation process, identification of entrepreneurial opportunities, building a team, incentives and negotiation techniques, etc.) and by treating other types of entrepreneurial situations (take over, organizational entrepreneurship, social entrepreneurship, independent work, creation of a handicraft business, etc.).

Develop inter-disciplinarity through teamwork on entrepreneurship projects. Training programmes should be developed that associate students from business schools or faculties of management and economics with engineering students or students from other scientific pathways. More generally, efforts should be made to create collaboration spaces for the creation of inter-disciplinary student teams.

Relationship with socio-economic actors

Increase participation of entrepreneurs and business support professionals. Efforts should be made to encourage business creation professionals and regional entrepreneurs to participate more regularly and systematically in entrepreneurship courses and programmes, if possible focusing on university graduates. Interaction should be stimulated between internal actors and actors from the business sector.

Organise events bringing together all the different stakeholders. The contest for the best business plan and the best entrepreneurial idea is a good occasion to gather students, teachers, entrepreneurs and business creation experts around the presentation and evaluation of opportunities for business creation. Other events could also be launched, e.g. business creation days, meetings between students and entrepreneurs, etc. Another interesting approach would be to offer business incubators and interested entrepreneurs a team of

students that would come to help them by e.g. conducting a market study, a provisional financial statement or a business plan related to a real-life situation.

Commitment of resources

Encourage participation of the most experienced teachers. The most experienced teachers in the field of entrepreneurship should be encouraged to participate in modules concentrating on the awareness-creation for entrepreneurship.

Establish a group of professional speakers affiliated to each university. A group of people should be formed who are interested in transmitting and sharing their experiences with students. These people should be selected according to their interests, their sense of pedagogy and their reflective capacity. They should be able to stand back from their personal experiences and draw some more general lessons, which they are willing to share and discuss with the students.

Appoint a reference teacher at each university. A referent teacher should be made available in each university to help with teaching, research and to guide students in their relationship with external actors. They would be responsible for the activities related to entrepreneurship within the campus.

Institutional infrastructures

Create an entrepreneurship chair or department in each university. In order to support and implement change and increase the visibility (and therefore the legitimacy and credibility) of entrepreneurship, each university should implement, within a time frame of 3 to 5 years, either a chair or an entrepreneurship department. The particular structure adopted should be the one that is most appropriate to the context and characteristics of the university concerned. Research activities could be considered through the creation of a team affiliated to an already existing research unit or, if the situation allows it, the creation of a new unit.

5.6. International learning models

The French Observatory of Pedagogical Practices in Entrepreneurship

Rationale for the initiative

The French Observatory of Pedagogical Practices in Entrepreneurship (Observatoire des Pratiques Pédagogiques en Entrepreneuriat – OPPE -) is a national approach to collect and share data about pedagogical practices in entrepreneurship. It operates in France at the national level but it could also work at the regional level. It provides a data base including most education actions in entrepreneurship. Its main aims focus on the transfer of good practices, the exchange of information on practices between professors, educators, institutions and support structures in entrepreneurship, the promotion of pedagogical tools, approaches and case studies. It illustrates the recommendation for the creation at national level of a strategy and structure in entrepreneurship to facilitate the exchange and diffusion of pedagogical practices, innovative methods and to spread good ideas, approaches and practices among Tunisian universities.

Description (budget, partners, how does it work)

OPPE was founded in 2001 as a result of a two-year period in which the founding partners worked on the concept. The annual budget is around EUR 150.000 and two managers work daily in this structure. The founding and actual partners are:

- The ministries of research, education, economy, industry and SMEs.

- The French Agency for the Creation of Enterprises (Agence Pour la Création d'Entreprise – APCE).

- The French-speaking academic association in entrepreneurship (Académie de l'Entrepreneuriat et de l'Innovation).

- University, engineering and business schools representatives.

- The French association in external corporate venturing (DIESE).

Moreover, OPPE regularly works with professors in entrepreneurship who act as experts in their respective fields.

The missions of OPPE are to contribute to the promotion and development of entrepreneurial spirit within the education system and to be a central data base including entrepreneurship education actions (courses, initiatives) in secondary and higher education.

Outcomes and key benefits

OPPE is an on-line data base including so far more than 270 entrepreneurship education actions in higher education[15]. OPPE regularly gives up to date information to those interested in entrepreneurship education through the daily newsletter of its partner the Agency for Entrepreneurship Creation. On a yearly basis, OPPE organises a two-day conference to initiate and develop pedagogical ideas and exchanges among professors, educators and other stakeholders[16]. OPPE also manages relationships with similar organisations in other countries such as FREE in Belgium and OFQJ in Canada. For researchers in entrepreneurship education, OPPE offers on-line more than 300 academic references in entrepreneurship education and specific research results on students' entrepreneurial intentions. A further benefit from OPPE is to provide professors and educators in entrepreneurship with information about pedagogical tools and methods such as case studies, interviews, videos or games. Up to now, 33 on-line pedagogical tools are registered.

Strengths and weaknesses of the initiative

The main strength of OPPE is that it constitutes a relevant and legitimate pedagogical resource center for entrepreneurship education. From our knowledge there is no similar tool elsewhere in the world. It offers professors and educators regular opportunities to meet and share entrepreneurship practices. One main weakness may be an insufficient commitment of the academic world and particularly of researchers. Things should be re-thought at this level.

Potential transferability and contextual factors

A key condition to transfer such an initiative to Tunisia at the national level would be to rapidly identify and engage 4-5 key academics who have a good reputation in the field of entrepreneurship (one way could be to commit members of the National Steering Committee on Entrepreneurship Education). The structure might be ideally placed under the umbrella of a scientific foundation in management or entrepreneurship.

---

[15] The data base also includes 100 entrepreneurship education actions in secondary education and 29 collective actions (shared actions which involve several HEIs or secondary institutions).

[16] Since the first conference in 2002, from 150 to 250 participants have attended the event each year.

Contact: Aïni HANNACHI, hannachi@apce.com

Tel. + 33 1 42 18 58 63

Website: http://entrepreneuriat.net

The Danish IMEET learning model

Rationale for the initiative

The International Master of Entrepreneurship Education and Training (IMEET) is not a traditional degree in entrepreneurship. IMEET is a top-level practice in teaching teachers in entrepreneurship. It aims to provide educators and advisors a solid knowledge in entrepreneurship and combine it with pedagogical competencies to teach entrepreneurship. It illustrates the recommendations that universities in Tunisia should reinforce and develop their human resources in entrepreneurship research and in entrepreneurship education. This initiative is a way to develop human resources in entrepreneurship both qualitatively and quantitatively.

Description (budget, partners, how does it work)

IMEET was initiated by the International Danish Entrepreneurship Academy (IDEA), which is a Danish knowledge centre promoting and developing new entrepreneurship education initiatives among partner institutions comprising all Danish universities and almost all higher-educational institutions in Denmark. IDEA[17] operates with a national centre and five regional centres embedded as autonomous units into multidisciplinary universities. The regional centre at the Aarhus Business School, University of Aarhus, was the first mover that launched and established IMEET in 2007. Up to now, IMEET, which is an international master programme targeting a pan-European audience, has the following partners: the Danish University of Education, Rostock University, Helsinki School of Economics, Kingston Business School, Kingston University, London. IDEA's partners include the Copenhagen Business School and the University of Southern Denmark. The first cohort of students consisted of 18 individuals from Denmark, the Netherlands and United Kingdom. All of them were educators at higher education institutions, advisors or consultants.

The master programme gives 60 credits (ECTS) to the participants through six modules and a master project. The teaching or pedagogical module topics are: Fields for Learning Entrepreneurship, Creativity and Enterprising Behaviour, Experimental Situated Learning, Field Project and From Experience to Development of Models. IMEET promotes innovative pedagogical methods and combines participation-centered learning with action learning. The teaching sessions are planned in Denmark, United Kingdom, Finland and Holland.

IMEET has been established and is actually basing its development using an advisory board of internationally highly-renowned experts in entrepreneurship education.

---

[17] To get more information about IDEA go to www.idea-denmark.dk

Outcomes and key benefits

IMEET is targeted towards educators, consultants and advisors. It aims to develop participants' capabilities for entrepreneurship teaching and learning facilitation. The master integrates knowledge on entrepreneurship theories with action-learning methods and learner-centered approaches.

IMEET is also a tool to create in the near future a pan-European network of master candidates in entrepreneurship serving European higher education institutions, a network of people who can develop and present entrepreneurship programmes as well as teaching and advisory processes in new and innovative approaches. The network, could, among other things, be dedicated to the development of best practices and advancing competence in and mastering of entrepreneurship learning methods. IMEET can so contribute to giving birth to a new generation of change agents with the capacity to promote the agenda of entrepreneurship in teaching and consulting.

Strengths and weaknesses of the initiative

The main strength is the relevancy of the programme and its high level of relevance to social demand. It is a fact that in Europe there is a dearth of qualified human resources to teach students, to engage in research on entrepreneurship education issues and to advise or support nascent or more established entrepreneurs. The main weakness is that due to the cost of the programme, and consequently the level of fees, and taking in consideration that universities have very few resources for professional development for faculty, in the first promotion of IMEET, few faculty members from European universities were able to participate even if their level of interest was high.

Potential transferability and contextual conditions

The ambition and economic model of IMEET would have to be changed in order to transfer it to the context of Tunisia because the programme is long and costly. A shorter programme could be designed in Tunisia, based on IMEET rationale and philosophy. It seems important to identify academic and professional partners and to offer a very attractive programme. A good way to achieve this would be to convince highly-renowned experts in entrepreneurship education both in North Africa and outside this area to act as programme faculty members or as members of the advisory board.

Contact details and website

Contact: Professor Per Blenker, Head of IMEET, University of Aarhus

Secretary: Lone Larsen, lonl@asb.dk

Tel. +45 89 48 6688

Website: www.imeet.asb.dk

The National Foundation for Business Management Education (FNEGE), France

Rationale for the initiative

The National Foundation for Business Management Education (FNEGE) was created on May 15, 1968 by the French state and business sector. Its creation goes back to a time when management education was practically non-existent in France. Consequently, FNEGE's initial mission was to develop higher education in management in France to a level comparable to the level of the major industrialised countries. In the first phase, FNEGE contributed to the training of a group of high-level faculty members by

providing grants to French professors and teachers to encourage them to follow a high level training at the best American universities. FNEGE then promoted the development of management research (doctorate training, academic associations, publications, e.g. the Revue Française de Gestion).

In recent years, FNEGE has made a major contribution to the internationalisation of the French management institutions, especially by promoting partnerships with foreign institutions.

Description (budget, partners, functioning)

FNEGE has a joint management board. It is composed of representatives from the public authorities, the universities and the business sector. Michel Bon, president in office, is the managing director of a highly renowned company in France.

FNEGE functions on the basis of small groups (less than 10 persons), the projects it initiates and develops use mainly – if not systematically – human resources from the universities and the *grandes écoles*, who are experts on the subject to be paid symbolically for their interventions.

FNEGE's functioning mode is mainly project oriented. For example, in 2011 FNEGE initiated a series of seminars under the heading "*Meet the Editors*" of renowned scientific journals in the sub-disciplines of management sciences. In January 2012, FNEGE proposed this seminar to young teacher-researchers in the field of entrepreneurship. Among the speakers were editors and associated editors of the following journals: Journal of Business Venturing, Entrepreneurship Theory & Practice, International Small Business Journal, Journal of Small Business Management, Strategic Entrepreneurship Journal, Entrepreneurship & Regional Development and International Journal of Entrepreneurship and Innovation.

Outcomes and key benefits

FNEGE's contributions to management sciences are essential. FNEGE federates and makes all the scientific associations affiliated to management sciences work together. Through its programmes and projects FNEGE:

- Contributes to the development of education and research in management;
- Is an institution that promotes education and research in management with regard to all stakeholders (the general public, professionals from private and public enterprises, representatives of public and private organizations, students and teachers of secondary education, etc.);
- Is an important vector for the influence of education and research in management sciences in France.

FNEGE manages numerous databases (higher education institutions, teacher-researchers, management theses, management trainings and programmes, etc.) and makes them available for its stakeholders.

FNEGE is also a privileged exchange platform between universities, business administration institutes, business schools and businesses. Finally, the foundation proposes a whole range of services such as aptitude tests for the selection of students, seminars for doctorate students and management teachers, support structures for recruiting teachers / professors.

Strengths and weaknesses of the initiative

The main strength of FNEGE is to gather all the different components of management education and research in France. It is an essential resource centre that intervenes at all levels.

Its main weakness is – if one wants to find one – related to its limited financial resources and to the action capacity (legitimacy, networks, etc.) of its management team.

Contact details and website

Contact: Valérie Fourcade

Tel. +33 1 44 29 93 72

Email: fourcade@fnege.fr

Website : www.fnege.net

CHAPTER 6: START-UP SUPPORT

6.1. Introduction

This chapter focuses on assisting students to recognise and exploit opportunities and in that capacity linking them with external business support providers where appropriate and needed.

An integrative framework for start-up support involving HEIs Entering entrepreneurship is a career decision for graduates, and as such depends on whether the graduates perceive it desirable, feasible and show a propensity to act and follow through their decisions (Ghulam Nabi, Holden, and Walmsley, 2006). The desirability of entrepreneurship as career option depends on its image in society, while perceived feasibility is influenced by skills and access to resources. Here, social, human and financial capital have been shown to be important for starting and developing a business; and (access to) sufficient resources are a common theme both during start-up and business development. Social capital refers to any networks or contacts which affect the individual decision to set up a business by offering emotional and technical support (Kim and Aldrich, 2005). Human capital expresses itself through educational background, work and management experiences, all of which have been found to positively influence business start-up and development (Cooper and Dunkelberg, 1986; Evans and Leighton, 1990). Financial capital, i.e., access to finance is one of the most frequently cited problems by nascent entrepreneurs, since the market for credit does not function as a neo-classical market should where good projects attract funding regardless of the resources of the proprietor. In practice, the collateral-based approach to lending used by commercial banks can be particularly discriminatory to those with limited assets, which can be compounded at start-up by a lack of a track record. At the same time, although there are documented supply-side failures, access to finance can also be caused by demand-side problems, such as the poor quality of applications and business plans. Access to financial resources can be even more difficult in an environment such as Tunisia, where private banks typically are unwilling to channel resources to new ventures. Also, possibilities for self-financing and bootstrapping, used by new entrepreneurs all over the world, are limited in a context where average income levels and savings are low.

Insufficient resources, however, limit the freedom of choice in volatile and turbulent business environments. When starting a business, limited internal resources and restricted access to external resources could result in liabilities of "smallness" and "newness" (Aldrich and Auster, 1986), which ultimately will impact on business survival and longer term business development. Graduate entrepreneurs may face additional difficulties in this regard, because their access to financial and social capital will be limited and their human capital, although high in terms of formal education, is lacking related to work experiences. It is here, that start-up support may solve some of their resource problems, thus contributing to higher survival rates of graduate entrepreneurs and ultimately also to business development. For example, the purpose of subsidised finance and grant provision is to seek to address gaps in the market, allowing start-ups in particular to access finance when mainstream banks and investors are unable to meet their needs.

Smallbone and Welter (2001), identify five types of interventions through which government influences entrepreneurship, namely, the influence government has on the macroeconomic business environment; the differential impact of government legislation and regulations on new and established businesses; the role of government in developing institutional capacity such as banks, business services organisations; direct support measures and programs that are designed to assist new entrepreneurs and small enterprises in overcoming size-related disadvantages; and the value government and society places

on enterprise and entrepreneurship within the wider society. Of particular interest for graduate entrepreneurship are the latter two interventions. Since the mid-1990s, many governments have promoted an entrepreneurial culture as one means to create awareness for entrepreneurship as professional career option (see the overview in Leitão and Baptista, 2009), including specific programmes to foster graduate entrepreneurship.

Verheul et al. (2001) distinguish between support interventions that affect the demand or supply side of entrepreneurship. Interventions on the demand side of entrepreneurship influence the number, type and accessibility of entrepreneurial opportunities while interventions on the supply side of entrepreneurship aim to influence the number and type of potential entrepreneurs. The latter category includes policies aiming at the availability of resources, skills and knowledge that are required to set up and develop a business; policies to influence individual preferences for entrepreneurship and policies aimed at individual decision-making. Similarly, Lundström and Stevenson (2005) state that government's rationale for supporting entrepreneurship should be based on increasing motivation, opportunities and skills. Such support refers to entrepreneurship promotion in order to raise awareness of entrepreneurship as attractive professional career and entrepreneurship education, but also to instruments which facilitate access to resources as might be required in the case of those graduate entrepreneurs who set up a business directly after their studies.

Little is known as to which support offers generate the best results when it comes to graduate entrepreneurship, not least because of a general lack of evaluations. Where those exist, results are mixed. For example, based on a study of UK graduates, Greene and Saridakis (2007) critically examine the value of supporting graduate entrepreneurship. Their results show that both formal support (e.g. career services) and informal support (e.g. encouragement through academics) had little impact on whether graduates choose to start a business, but that it was rather the social context (i.e. families and friends) who influenced the decision as to whether to set up a business. In the Tunisian context, one might expect similar results were support efforts for graduate entrepreneurship to be evaluated, because of the strong role of the family which still prefers wage employment for their children to what is perceived as unsecure entrepreneurial activities. The authors conclude that there might be a case for external support agencies to focus on offering "soft" support dedicated to graduates. However, they also question the general value of support for graduate entrepreneurship, emphasizing that more needs to be known about who enters entrepreneurship and when, and that "dedicated targeted support to those who evince an intention to start up immediately following graduation may represent a waste of resources" (Greene and Saridakis, 2007).

To sum up, the implications in regard of developing successful start-up support for graduate entrepreneurship are the need for: (i) a careful consideration of the target group, i.e., which graduates should be targeted and when (immediately after graduation, after some years once they have accumulated working experience, graduates from certain disciplines or all graduates, etc.), (ii) tailoring of support offers to promote the feasibility of entrepreneurship (resources, skills), (iii) inclusion of "soft" support to foster the desirability of graduate entrepreneurship (e.g., promote the image of entrepreneurship careers).

The role of HEIs in entrepreneurship start-up support

To date, the major role of HEIs in start-up support has been seen in entrepreneurship education efforts, including creating entrepreneurial awareness, together with generally fostering technology and knowledge transfer and the commercialisation of research results (Markman, Phan, Balkin, and Gianiodis, 2005). Ideally, the latter is seen as a route to academic entrepreneurship (Meyer, 2003) or, in a more narrow perspective, science-based entrepreneurship (Henrekson and Rosenberg, 2001), as reflected in knowledge-intensive and research-based university spin-offs which have received large attention in the literature (e.g., Clarysse, Wright, Lockett, Van de Velde, and Vohora, 2005; Djokovic and Souitaris, 2008; Lockett and Wright, 2005; Vohora, Wright, and Lockett, 2004). The question does arise as to whether

universities should offer entrepreneurship support which goes beyond entrepreneurship education and commercialisation of research results. In the light of tight and ever decreasing budgets, it might make more sense for universities to focus on their core task and build close links with existing business support structures (Hofer et al., 2010).

In this regard, Arroyo-Vázquez and co-authors (Arroyo-Vázquez and Van der Sijde, 2008; Arroyo-Vázquez, van der Sijde, and Jiménez-Sáez, 2010) suggest looking at the whole support process in and outside HEI, at internal and external stakeholders and their respective roles in the process, all in order to develop synergies and an integrated approach to foster student and graduate entrepreneurship. They propose an integrated model of entrepreneurship and business development support, which combines two critical tasks for HEIs in entrepreneurship promotion, namely entrepreneurship encouragement (EE) and business development support (BDS). EE refers both to building an entrepreneurial culture among stakeholders involved and promoting entrepreneurship education and research while BDS covers the whole process of opportunity search, recognition and exploitation as well as start-up and business development (Arroyo-Vázquez et al. 2010). The EE and BDS model differentiates between four stages of support activities: 'entrepreneurship culture' (promoting awareness, entrepreneurship education and research), 'entrepreneurship support' (opportunity search, business plan development, specific programmes to support skills and resource access), 'business launch support' (access to funds, infrastructure and networks) and 'business development support' (coaching, R&D support, technological services).

Figure 6.1. Illustration of the entrepreneurship encouragement and business development support model
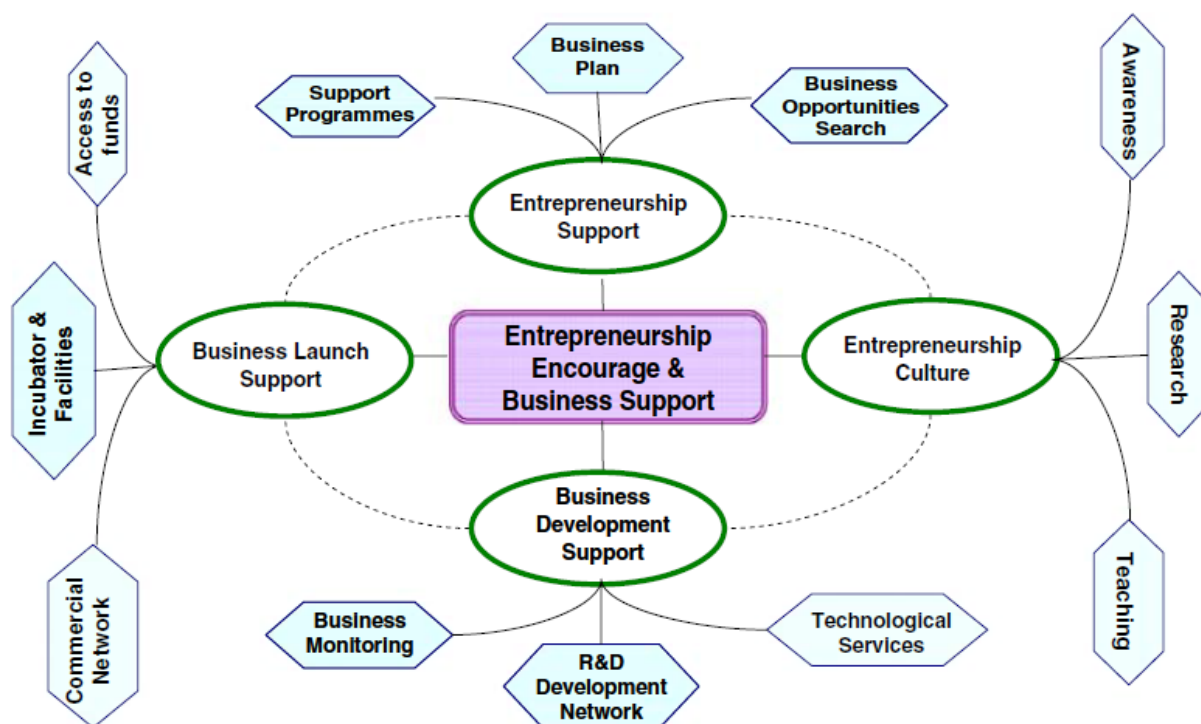
Source: Arroyo-Vázquez and Van der Sijde (2008)

Their model allows not only to clearly identify the different tasks involved in the whole process of EE&BDS, but also to consider where HEI support should end and external support structures should take over. Generally, HEIs are probably best suited to concentrate the support activities during the first two stages (entrepreneurship culture, entrepreneurship support). However, this should not exclude participation of external support providers, for example, in activities focusing on business plan development and

opportunity exploitation. Stage 3 (business launch) can be considered to be a joint task of the HEIs and external stakeholders, in that HEIs refer their students and graduates to external support agencies, thereby warranting close collaboration. Stage 4 is a main task of external support providers as this covers post-start up support areas, thus ensuring business development in the long run. In other words, HEIs should offer support activities which are first of all aimed at increasing the desirability of entrepreneurship and its feasibility in relation to skills, while external stakeholders should focus on generally supporting the feasibility of entrepreneurial activities both after the start-up and in a longer term perspective.

But, HEIs are not a homogeneous group; also, they are embedded in their regional environments. Therefore, the distribution of support tasks between HEIs and external support agencies might differ across the various stages. For example, where a university is strong in commercialising science research it may operate its own incubator, while a university more focused on social sciences might decide to closely collaborate with external stakeholders to be able to support those offers.

The question remains as to *how* to best integrate and engage with external business support agencies. As Potter (2008) notes, co-location of science parks or incubators within or close to HEIs does not generate automatic knowledge transfers. Additionally, HEIs and business support providers will have different motivations, interests and expectations regarding their roles and main tasks in fostering graduate entrepreneurship. Thus, HEIs and support agencies will not only have to create systematic channels for interactions and referral of students and graduates. Referring back to the EE&BDS model, a coherent approach to fostering graduate entrepreneurship requires a 'joined-up' approach between HEIs and external support providers as well as a comprehensive strategy, aligning goals and tasks of all stakeholders involved. With that, HEIs become part of a wider eco-system for entrepreneurship development, thus also contributing to local economic development.

6.2. A review of start-up support in Tunisia

Components of the start-up support system

The Tunisian support system focuses on three main components, namely access to financing, access to information, training, advice and counselling, and the provision of infrastructure for nascent or existing young businesses, frequently with a focus on specific target groups (unemployed graduates, high-technology businesses).

Financial support is handled by the Banque Tunisienne Solidarité (BTS) and the Banque de Financement de Petites et Moyenne Entreprises (BFPME) as described in Box 6.1. Both banks principally facilitate the access to their credit lines for graduates, because they do not require collaterals, although the BTS, for example, in its micro credit programme, might ask a family member to guarantee for a graduate applicant. Moreover, the BTS requires nascent entrepreneurs to put up 10% of the investment applied for, thus indirectly discriminating against university graduates, who, it can be safely assumed, in most cases would not have any savings. This rule is one of the difficulties in accessing financing in Tunisia. Therefore, although the financial support offers are, in principal, designed to facilitate access of nascent entrepreneurs, they are not sufficiently tuned into the needs of graduate or student entrepreneurs. In the case of the BTS, the micro credit programme might also lead to undercapitalised ventures with low survival prospects as they will have not have a sufficient resource base to deal with liabilities of newness and smallness during the first months and years. Additionally, high default rates for both banks appear to indicate a need to offer more comprehensive services, e.g. integrating lending with coaching, although the BFPME does offer an integrated package.

Box 6.1. Access to financial resources - the BTS and the BFPME

The BTS was created in 1997 and is the first Tunisian bank specialising in financing small projects through direct funding or through microcredit associations. Its beneficiaries are generally young graduates of higher education institutions or from vocational training. From 1998 until 2011 BTS approved 15,000 loans, 30% of which have defaulted; and an even higher default rate is expected for 2011 and beyond because of the revolution. BTS offers direct credit lines, either as short-term or medium-term loans, with 7.5% interest rate and a grace period of two years. Applicants can receive up to 100.000 Dinar, but the loan is frequently not paid out to the applicant but to his/her suppliers. The bank also asks nascent entrepreneurs to invest 10% of the capital from own sources. Additionally, the bank has a micro credit programme, where micro credits of up to 5.000 Dinars are handed out through microfinance associations (currently 280 such organisations exist). Previously, all sectors were supported, but after the revolution the government issued a decree that retail businesses will not receive any further loans because too many of them went bankrupt or claimed bankruptcy due to the revolution. Interest rates for micro credits are low, amounting to 5%; and the loan has to be repaid within three years. Within the micro credit programme, applicants do not need to provide collaterals, although the bank might ask for a family member to guarantee the loan.

The BFPME was created in 2005 and the Tunisian state holds 60% of its ownership. The bank handles loans between 100.000 and 5 million Dinar for all sectors except tourism and housing. Similar to BTS, the BFPME does not require collaterals, and 50-70% of their credits are backed by the state guarantee agency. The default rate is even higher compared to BTS and amounts to 50%. The BFPME additionally offers advisory and follow-up services, targeting both nascent entrepreneurs as well as existing businesses which want to expand and grow. Advisory services include, for example, assistance with proofs of concept, feasibility studies and business plans, advice related to governmental subsidies and incentives for starting or growing a business, legal advice and similar. The bank has approved a total of 1,178 projects, with a total of 875 million Dinar investments, and 677 loans have been paid out. Nearly 25.000 jobs have been created in businesses supported by BFPME.

The provision of information, advisory and consultancy services is one of the most common elements of business support. It provides those starting up, for example, with guidance on the implications, rewards and risks of starting a business, as well as helping to diagnose problems and building the knowledge necessary to run a business. In Tunisia, information, advice and counselling as well as further training are offered by a network of Business Centres, which exist in each of the 24 regions in Tunisia and which were created in 2005. Offers include, for example, an idea pool, generated by experts, consultants or other support providers, assistance with writing a business plan and accessing funding which are the most popular services, training and coaching throughout business creation and the first three years. The target groups of Business Centres are graduates from university and vocational training. The majority of clients come from trade and services and plan a micro business; frequently, they return after some time to re-orient their venture. The Business Centres draw on external experts for their services, including one coach from a HEI who work one day per week for the centres – sometimes the same coach also works for the incubator. Those university coaches are selected by HEI leadership. But their service in the Business Centre does not appear to signal genuine collaboration between HEIs and Business Centres, partly because these coaches represent only one HEI and no feedback mechanism to other HEI appears to exist.

In combination with the provision of infrastructure and offices, advisory services also are offered by the Entrepreneurship Spaces, incubators and Technopoles. *Entrepreneurship Spaces* primarily reach out to unemployed and young persons, thus implicitly also offering support to graduates and alumni. They are a low-threshold offer for micro entrepreneurs, supported by the National Agency for Employment (ANETI). Potential entrepreneurs can use the workspaces to research their ideas and work on their business plan. Training courses include a 3-day seminar on idea identification (MORAINE), and 3-week trainings such as CEFE and CREE, programmes which are known internationally for their creative and entrepreneurial training methods. Students can apply for small scholarships in order to finalise their business plan and start setting up the venture (100 Dinar for undergraduates, 200 Dinar for graduates per month). Training offered

by the Entrepreneurship Spaces seems to reach a large number of potential entrepreneurs and also contribute to enterprise survival. For example, in Sfax 2.500 students have already participated. 39% go on to start a business, but even those who do not proceed with their venture idea, are not considered failures: Some trainees have weak intentions to set up a business, many give up due to economic recession, a few find jobs. Approximately 60% of those who set up business in 2009, survived until now. Also, entrepreneurship teachers occasionally direct their students to these training courses.

Box 6.2. An example of an incubator at a university –Sfax 1

Sfax I is located in the Engineering School of the University of Sfax, and headed by the director of the Regional APII. A total of 13 incubators were set up in 2001, one in each university, based on a bilateral agreement between APII and the Agency of Universities. A university lecturer is involved in each incubator, Sfax I has a total of 13 incubator places plus facilities for training, counseling and exhibitions. Services offered include reception, where the needs of visitors are identified and, where needed, they are referred to other support organisations; 1.5 months training which is aimed at writing or perfecting a business plan; followed by supervision in the next three months; incubation and follow-up over up to two years. Services are offered for free, but once projects have reached the incubation stage, they have to pay 50 Dinar per month during the first year. Projects are selected by a committee, which consists of the director, the university representative and other experts. The committee evaluates the projects based on their innovativeness, decides on services to provide and the duration of incubation. In 2011, Sfax I received a total of 169 visitors, 59 attended the training and 18 were supervised. Currently, 11 projects are incubated in Sfax I; 50 projects have already left the incubator.

Incubators are at HEIs are financed by the Agency for the Promotion of Industry and Innovation (APII). As well as space they offer low threshold services for graduate entrepreneurs, but universities do not appear to capitalise systematically on these structures: links to incubators are restricted to the schools where they are located and appear to be initiated and maintained by individual teachers and incubator directors, as is apparent in the case of Sfax I (box 6.2). The majority of incubator clients are not freshly graduated, but come back several years after their studies. Each incubator has one coach from university. Sometimes they are also coaching for the Business Centre, thus in principal offering a mechanism for a more formalised referral system from HEIs to incubators. This would be of particular interest for alumni who think of setting up their business some years after graduating from universities, but most HEIs are not systematically following up with their alumni.

Technopoles are specialised technoparks, with the Tunisian government selecting their specialisation, taking into account the specifics of the location of the respective technopark. Their success results from creating synergies between research and industry. For example, the Technopole El-Gazela, created in 1997, has a specialization in ICT, and evolved around a school for telecommunications. Today, the technopark hosts 190 companies and 4.500 persons, 13 of which are multinationals. Additionally, several HEIs with a focus on engineering and ICT, a public research centre, a project incubator for graduates wishing to start a business centred on ICT, and a business incubator for start-ups (many of them graduates or returnees to Tunisia) are located in the technopark. The project incubator works similar to Sfax I, although the number of projects hosted for two years is surprisingly low, given the close links and co-location of several HEI in the technopole, amounting to a mere 8-10 projects.

To sum up, Tunisia has a well-developed start-up support system, which mainly addresses the stages of business launch and, to some extent, business development, although this is focused on support over the first years after start-up. However, the support system neglects growth and further business development as critical phases of business survival. Additionally, the system has a strong emphasis on supporting the feasibility of graduate entrepreneurship, but without an explicit focus on fostering graduate

entrepreneurship per se. The review also illustrates several possibilities to ensure systematic collaboration between external support providers and HEIs.

Start-up support at HEIs

At present, business launch support is mainly provided by external structures, while the universities focus on entrepreneurship education, neglecting, however, promoting entrepreneurial engagement within their structures. At most Tunisian HEIs, entrepreneurship start-up support is not institutionalised, but depends on individual contacts of entrepreneurship educators and business support agencies. Coaching is offered on an ad-hoc basis, thus solely depending on the enterprise educator's experiences and knowledge. Enterprise educators refer their students on a case-to-case basis to organisations that offer further support and training but do not follow up as to whether students choose to go there. The reasons for this lack of start-up support and integration with existing external support providers are: (i) a focus of entrepreneurship support on entrepreneurship education at HEIs (in other words, on promoting skills and motivations rather than business creations), (ii) a lack of understanding that entrepreneurship can be a professional career, which results in some HEIs not using their excellent links to industry to promote graduate entrepreneurship, but instead focusing on general student placements and wage jobs.

For example, the University of Applied Sciences at Rades has strong and close linkages with businesses, collaborating on different levels (curriculum development, co-constructed courses, thesis work in enterprises, internships, applied and commissioned research). The University of Applied Sciences Rades is situated in a business zone where 20% of all industrial activities in Tunis are located which could serve as good basis to foster graduate entrepreneurship and new venture creation. But, despite its strong links with the business sector, the university emphasises placement of students in enterprises and their employability instead of encouraging entrepreneurship and new venture creation. Although this might reflect a lack of a culture of entrepreneurship in Tunisia and at the university, it represents a missed opportunity. Also, despite its collaboration with industry and the incubator, the university lacks formal linkages between its entrepreneurship education activities and business support. Enterprise education teachers coach students during an individualised course on career development, which includes those interested in setting up a business. Also, on a case-to-case basis, they refer students with a business idea to further training (CEFE, offered by the Entrepreneurship Spaces) or to financing institutions (BTS or to the incubator for further development of business ideas). The club of student entrepreneurs, initiated through a project by the Ministry, is inactive at the moment and its activity has been dependent on whoever is in charge of the club. There are no visible signs that the student club has been used in promoting graduate entrepreneurship.

The University of Sfax is one of the few exceptions regarding in-house entrepreneurship support: Internal support structures exist in the form of CUIES, an Entrepreneurship and Placement Centre which offers coaching and follow-up meetings for students with a business plan (twice a month) as well as access to finance through public banks and access to further training or counselling at the incubator. Yet, where such in-house structures exist, they do not guarantee close collaboration with and systematic referral to external business providers. For example, the central administration unit at the University of Jendouba which promotes entrepreneurship and industry links has limited outreach within the university, to students, and also to alumni. This results from the fact that in-house entrepreneurship support structures are often disconnected from the departments and faculties involved in entrepreneurship education and their mission differs, frequently, as is the case for CUIES, emphasising evaluations and placements, but not solely focused on entrepreneurship and business launch support.

Integration and referral, where existing, is informal and mainly done on case-to-case basis. Most support providers reported examples where their services are somewhat integrated with entrepreneurship education at universities. For example, the BFPME and the Business Centre attend university exhibitions,

start-up Wednesdays or start-up weekends, promoting its services and aiming to motivate students to apply for its loans. Similarly, the Technopole El-Gazela co-organises open days with the HEIs located within the technopark; and several of the larger and international companies give lectures to familiarise students with their technologies, while research units within the technopark offer assistance to students in relation to their thesis projects. Its new general manager has an academic background (she was the Rector of the University of Mandouba) and is currently working on a strategic plan to enhance relationships with universities. However, external support providers consider students to be less interested in entrepreneurship and business creation when they still attend university, which indicates a lack of entrepreneurial culture at HEIs.

A typical example of these informal and loose relationships between universities and business support providers is the incubator Sfax I, located at the Engineering School of the University of Sfax. Its advisory committee includes representatives from all relevant support agencies in Sfax as well as university teachers and members of regional associations. The incubator is the result of an agreement between the engineering school at the University of Sfax and the Agency for Promotion of Industry and Innovation and, as such, a clause in the agreement stipulates that the incubator has to receive qualified engineering students with entrepreneurial intentions from the university. In fact, the incubator did have a convention with the engineering school to ensure a visit of all final year students, as well as students of secondary schools. Once this agreement came to an end, the figures for receiving graduate students dropped. Still, the incubator has some links with the university, but those appear restricted to the engineering school, not least because of its spatial proximity; collaboration is based on oral agreements, as such depending on individual goodwill rather than on a more formalised system of referral and collaboration between the university and the incubator. For example, the incubator employees regularly offer lectures on business creation and start-up at the engineering school, which also provides access to laboratories to facilitate proof of concept for incubating ventures. Also, at the annual university exhibition, students show project ideas, but no one from university is in charge of following through any interesting project ideas, for example, linking students with businesses which could help with commercialising and exploiting their ideas.

Thus, collaboration between higher education institutions and external business support providers is loose, frequently based on individual contacts and initiatives started by the external agencies. Formal agreements are either non-existent, not prolonged or do not generate value as for example, at the University of Jendouba, both sides appear to be at a loss how to fully capitalise on those. The support organisations do not see the value/need for such agreements; and the HEI may not have the capacity to lead its development and fuller use. Nor are the university representatives in incubator structures used as a resource to ensure systematic referral of students and graduates to support structures and to closer integrate external services with university entrepreneurship education. To conclude, co-location and co-employment do not produce the wanted synergies between internal and external support structures nor does this seem to foster strong collaboration between the support agencies and the HEIs (Potter, 2008).

6.3. Recommendations

The recommendations in this section focus on how to improve start-up support for graduates, both within HEI, together with external support providers and in a more general perspective. Tunisia invests heavily in infrastructure, but is less concerned with softer factors of support for graduate entrepreneurship, such as synergies between HEIs and external business support structures.

Generally, HEIs need to move from single and informal support activities (such as the current case-to-case referral to incubators or banks) towards a co-ordinated and systematic approach covering all stages of support as for example reflected in the EE&BDS model introduced in this chapter. This requires strengthening, and, in the long run, expanding internal support activities within HEIs as well as institutionalising their links with external support providers.

Strengthening and expanding internal support activities at HEIs

Increase top-down support for graduate entrepreneurship by HEI leadership.

Within HEIs, the strengthening of internal support activities requires the strategic recognition of the importance of graduate entrepreneurship by leadership.

Increase co-ordination of entrepreneurship support within HEIs and with external support providers. Greater cross-faculty collaboration in entrepreneurship support and better links between entrepreneurship education and start-up support provision should be developed. This requires co-ordination within the HEIs, either through a central unit or through a network of entrepreneurship champions at faculty/school level. Ideally, these units or networks would also be responsible for linking with external support providers, thus promoting both internal and external integration of start-up support.

Expand HEI start-up support to include coaching, teambuilding and connections to alumni. In the longer run, HEIs should expand their internal support activities to cover the phases of entrepreneurship support and business launch support. Student or graduate involvement in coaching may be an option to expand the internal support activities to offer systematic coaching, as illustrated by the learning model of the Business Lab at Science Park in Jönköping, where recent graduates are employed as general coaches for students wishing to develop their idea and to start a business. Another option is to facilitate team-building between students from science and technical departments with those from non-science departments. Expanding internal entrepreneurship support should also include activities to establish an alumni entrepreneur network and connect nascent entrepreneurs with alumni entrepreneurs, which can add to increased feasibility of graduate ventures, but also foster the desirability of entrepreneurship with alumni acting as role models. HEI also should explore possibilities to integrate existing regional networks and associations of young entrepreneurs into their internal entrepreneurship support.

Institutionalising links between HEI and external support providers

Offer joint business launch support with external agencies.

Ideally, business launch support could be offered jointly with external support agencies. This would need systematic integration and a joint strategy between HEIs and external stakeholders.

Improve referrals by HEIs to external support providers.

Generally, for a more effective approach in promoting entrepreneurship, an improved relationship between HEI and external support providers will be crucial. A mechanism is needed whereby HEIs inform students, graduates and alumni about external offers. Additionally, HEIs need to create a systematic mechanism for referral of students to external support agencies, be it through incubators co-located at HEIs or through other support providers offering training, advice and financing. Currently, contacts are more based on ad hoc individual actions rather than on systematic referral from higher education institutions to the local support providers.

HEIs, together with business support providers, should develop a streamlined system, clarifying their respective roles and responsibilities in offering support to nascent graduate entrepreneurs. A potential model is illustrated in the Science Park model of Jönköping University. Also, the student clubs, which exist at most HEIs, could be involved in referral systems, e.g., by organising network events with external support providers.

A systematic referral system may be achieved in relatively short time, both by using existing informal contacts and by drawing on the HEI representatives in business support structures such as incubators and

business centres. However, their role as HEI advisors in support structures needs to be strengthened. It needs to come with the scope to take responsibility within external support structures and also needs recognition by HEI leadership in order to foster systematic referral systems within HEIs. Both might represent a challenge because external support providers may not see a need for greater participation of HEI representatives in their own structures nor may HEIs perceive this as an immediate priority. In the long run, HEIs should revive or, where no conventions existed before, initiate formal agreements with external support providers.

Provide access to university facilities to start-up firms.

HEIs can also strengthen and institutionalise existing links to support agencies by opening up access to laboratories and other facilities to incubator companies. In other words, they should make more systematic and better use of the incubation facilities in their surroundings. In this regard, HEIs also need to implement rules in order to facilitate and regulate the access of graduate entrepreneurs and incubator companies to technology or other facilities such as laboratories or machinery as well as to knowledge generated at the HEI.

Expanding and tailoring existing start-up support

Strengthen support for business growth and survival.

The current support offers emphasise start-up and early stages of business development, but neglect support to overcome critical thresholds during business development and growth which contributes to ensuring longer term survival and business development. Graduate entrepreneurs who do not only face the usual liabilities of newness and smallness, but frequently bring less working experience and networks to their business, would benefit from support focused on coaching them not only during the immediate years following the business start, but also during situations where the business faces, for example, a growth-related crisis. Such support could include the design of a mentoring programme as in the case of the "Mentor your Business" programme in Sweden, where experienced entrepreneurs and managers offer their services and advice to young, graduate-led businesses.

Provide tailored support for high-potential graduate businesses.

Tailored support refers to offering support for high-potential graduate businesses, which also could include exporting start-ups. This requires better links between research at HEI and entrepreneurship activities as well as the above recommended better integration of internal and external support offers. In order to enhance research-entrepreneurship links a service could be introduced within incubators to help students, graduates and teachers at HEIs to think about the commercialisation potential of research or even master theses. This would promote the idea of high-potential, in the sense of research-based graduate businesses within HEIs, while external support providers could offer tailored training, coaching and mentoring support. High-potential graduate businesses would also need specific financial support such as venture capital or business angels.

Integrate existing support offers into a joined-up policy and support approach.

Current business support for (graduate) entrepreneurs is offered from different agencies, supported by different ministries and thus targeted at different groups. Whilst collaboration between support providers and also associations seems to work well at local level, there remain some doubts as to how far this extends to ministry and government level, where national ministries have their own agendas for promoting entrepreneurship. One way towards an integrated and strategic policy and support approach for graduate entrepreneurship would be the bundling of existing activities both at national and local level and involving

different stakeholders, as illustrated by the example of the initiative "Germany – a Nation of Entrepreneurs".

6.4. International learning models

Towards better links between universities, student entrepreneurs and external business support – The Business Lab of Science Park Jönköping

Background, rationale, key facts:

Sweden has a strong focus on supporting knowledge-based and high potential businesses, in order to foster innovativeness, growth and local economic development. Science parks are one instrument to achieve this, by linking university science with business and support agencies. The first science park in Sweden was set up near Lund University in the early 1980s, when traditional industries were hit by economic recession and structural change. The inspiration for Science Parks was taken from the USA, but each of them has been adapted to Swedish and local conditions. Moreover, Science Park Jönköping is special, as the initiative to set up a science park originated from a business start-up system set up by two students at Jönköping International Business School (JIBS) in 1996 (Sjölundh and Wahlbin, 2008).

Science Park Jönköping is owned by the municipality of Jönköping, Habo Municipality and Jönköping University. Its operation and activities are financed by the owners, Innovation Bridge and through projects, which are supported by, amongst others, Vinnova (the Swedish Growth Agency), the Regional Council and the European Union Structural Funds. Target groups of the Science Park include students and alumni, high potential entrepreneurs and knowledge-based and innovative businesses. The Science Park offers a business lab, a business incubator, and general office space for those businesses which are interested in locating next to the university. Around 125 companies are located in the Science Park.

The Science Park closely collaborates with banks and other funding agencies, tax and patent lawyers, and other support agencies. Business Lab is for those who are interested in (further) developing a business idea (mostly students or graduates from Jönköping University). The Business Incubator aims at growth-oriented businesses which will be supported by a personal business developer over a period of two to three years. In order to participate, entrepreneurs can, but need not be located in Science Park. The incubator programme offers 15 places. Its services include over 400 hours of business coaching and access to specialist advice in law, economics, banking / insurance, technology and marketing. The business incubator costs 1.500 SEK per month. Office space in the Science Park is free of charge for the first three months for participants of the business incubator, after which market rents are applied. The Business Growth section hosts around 80 firms, including R&D units of larger firms and companies which provide services to other firms in Science Park (Sjölundh and Wahlbin, 2008).

Collaborating with the university – a closer look at the Business Lab and some related services

The Business Lab provides low threshold, free support for student entrepreneurs (as well as for start-ups by employees at Jönköping University). It runs an open support system: ideas are not pre-screened, nor are students pre-selected; and interested students decide on their own when to take which step and when to ask for support or leave the system. The general coaches are all young and fairly recent graduates. They work in teams, counseling for a business idea averages two 1.5 hour meetings; and they are complemented by more senior business advisors as well as specialists for different areas, e.g., business law. Additional services offered by the Science Park include a broad range of different seminars and workshops, funded by local and regional agencies and municipalities. Other support includes workspace for 6 months or until the company has been started, with costs covered by the university. After start-up, student entrepreneurs with

scalable ventures may qualify for the Incubator, but most students either rent premises at commercial rates in the Business Growth section of the Science Park or elsewhere in Jönköping.

In order to facilitate access to finance for entrepreneurs, Science Park built up a webportal which gives an overview of funding opportunities that are available in Jönköping County. Funding sources are classified according to business development stages (idea, start, development, growth), which allows entrepreneurs to easily identify relevant financing sources. The portal is a collaboration between different local (County Council, County Board, Regional Council and the Science Park Jönköping) and national organisations (Almi, Employment Service, Innovation Bridge).

Also, the Science Park is a partner in the Jönköping Business Development AB (JBD), set up in 2007, which is an investment fund, jointly owned by the Science Park Jönköping, Jönköping University, The Sixth AP Fund and several private investors. JBD focuses on early-stage investments, usually as the first external investors. Its target groups are high potential businesses, with innovative products and services or with international potential.

In 2011, Science Park started a new service, which aims to offer staff and students at the university the means to utilise their research results. This can involve anything from finding new channels to disseminate research results to society and the general public to matching students and researchers with companies as well as support with a start-up based on patenting, licensing and commercialising research results. In this, Science Park collaborates with the associate research deans at all four schools within the University. Jönköping University generally works closely with the Science Park which serves as entry point for students wishing to start a business. At the Jönköping International Business School (JIBS), Science Park employees are present in entrepreneurship courses, where, for example, they help students with their business plan. Students wishing to further develop their business plan into a venture can obtain free office space at the Business Lab for a limited period of time.

Outcomes, challenges, transferability

The Science Park has traditionally strong links to the university, not least because of its origin, but also because of the co-ownership and financial investment of the university. Its range of services covers important themes during start-up and early growth stages of a young company, with an emphasis on high potential businesses in later stages of business support. Within the university, its services, especially the Business Lab, is well known, not least because of its walking distance to all of the four schools and its low-threshold services.

The Business Lab has had steadily increasing contacts with students, as shown by Sjöhlundh and Wahlbin (2008), with 3100 students approaching the Science Park in 2007. In the same year, this resulted in 164 business ideas, of which 63 were realized in start-ups. In 2010, some 85 new enterprises were started in the Business Lab by students at Jönköping University. Overall, support to student (nascent) entrepreneurs has been successful in several respects (Sjöhlundh & Wahlbin, 2008: 447): (i) The number of start-ups is high in relation to the number of students and compared to the number of start-upts in the local municipality, (ii) a continuous and steadily high start-up rate for more than a decade indicates sustainability of the support efforts, and (iii) cost-effective support, also beneficial to the local community and region.

Challenges include the 40-60% of active start-ups which do not survive the first 2-3 years. Some of the student start-ups have been liquidated. Sjölundh and Wahlbin (2008) also report one bankruptcy. On a more positive note, some ventures have been acquired or integrated into larger companies, but occasionally, graduates also find employment with one of their customers. Part of the explanation for low business survival is the high share of international students at two of the university's schools (80% at JIBS

and 25% at JTH – the engineering school). Often, founding teams are broken up once international students return from their studies abroad in Jönköping. One way of overcoming this would be to foster alumni ventures, and the generally close collaboration between the university, its schools and the science park would ensure access to alumni. However, formal alumni networks have only recently been created at the university (https://alumni.hj.se/portal/public/Default.aspx).

One of the success factors for the Business Lab is its accessible, open and student-driven support approach, which focuses on actions taken by students, not by those who support them. This goes hand in hand with the employment of recent graduates as general coaches, who are close to both academia and business, but are sometimes supplemented by more experienced senior coaches and counselors. This ensures both a low-threshold and needs-based support system as well as excellent understanding of the needs and requirements of student-based ventures. All this is complemented by a simple organisational structure and a close integration with the university and the entrepreneurship teaching there. All in all, this model can be of interest for Tunisian universities each of which already has an incubator structure at universities in place. Additionally, it would offer a way to create closer links between HEI and the existing incubator structures.

Contact details and website

Science Park Jönköping

Gjuterigatan 9, 553 18 Jönköping, Sweden

Tel. +46 36-30 51 50

Email: info@sciencepark.se

Contact to employees at http://sciencepark.se/kontakt/

Specifically for links between science and business: simon.markstrom@sciencepark.se

Article on the Science Park: Sjölundh, Therese and Clas Wahlbin (2008), Entrepreneurial students: The case of students starting up companies in parallel with their studies at Jönköping University, Sweden. Industry & Higher Education, 22(6), 441-452.

Preparing for start-up and business development – Mentor your Business in Sweden

Background, rationale, key facts:

Mentoring can help new and existing businesses to survive, to avoid bankruptcy and achieve longer-term business development and growth, by helping them through critical business development stages. One of the forerunner mentor programmes is the US SCORE "Service Corps of Retired Experts", which was established in the 1960s, and today includes more than 13.000 mentors across 62 industries (www.score.org). In 2006, the Swedish government authorized ALMI Företagspartner, together with "Jobs and Society" (NyförategetCentrum) to set up a mentoring programme for new and established businesses: "Mentor Eget Företag / Mentor Your Business".

ALMI is a government-owned, non-profit public company with 51 regional subsidiaries, each owned by the Swedish government (51%), county council, local municipalities, regional bodies. ALMI's main objective is to support small and medium-sized businesses and new ventures, in order to stimulate innovation and growth in the Swedish economy. Support offers fall into the area of financing and business

development, across three broad categories, namely Innovation, New Enterprises and Established Enterprises.

"Jobs and Society", a Swedish Foundation supports entrepreneurship through professional start-up advice, using its local enterprise agencies (NyföretagarCentrum – the first of which was set up in 1985) and covering 200 out of 290 municipalities. The Foundation is financed by private industry, authorities and organizations, with the principle that more than 50% of the funding for each enterprise agencies and the Foundation has to come from private industry. Today, around 2.500 companies and organisations support the Foundation, and it can draw on a network of more than 4.000 entrepreneurs and managers. Nascent entrepreneurs can access its support for free.

The mentoring programme was designed to complement commercial consultancy and support offers; and it targets a group that is seen as to not have the financial resources to engage professional support. Both actors offer mentoring for different target groups. While "Jobs and Society" focuses on nascent entrepreneurs who have not yet started their company, but come with a sustainable and viable business concept, ALMI offers mentoring for existing small companies, focusing on new, established businesses and those preparing to export. Nascent entrepreneurs can access mentoring for free, but ALMI's mentees have to pay a symbolic fee of 1.000 SEK (approximately EUR 100), excluding VAT. For exporters, fees are slightly higher. Mentees participate in 10-12 meetings with their mentor throughout the year. In addition, there are networking events; and they also can access further support at the agencies offering the mentor programme. In 2010, ALMI introduced as a new feature of its mentoring programme mentoring for entrepreneurs with a foreign background (Pervik, Henningson and Hultman, 2011).

Outcomes, challenges, transferability

On its webpage, "Jobs and Society" provides some data on results, which demonstrate that the programme appears to be successful and in high demand. In 2006 a total of 400 nascent and new entrepreneurs those already starting their venture start-up businesses were, for one year and at no charge, given access to a mentor. In 2007 and 2008, 800 people were mentored, in 2009 already more than 1.000 people. Its goal is to grow and sustain the programme in the long run – similar to SCORE in the USA.

Challenges relate to government collaboration during the implementation phase of the nation-wide programme (Wickholm, Henningson and Hultman 2007): The mentoring offer was piloted in one municipality of Sweden, Örebro, and after its initial and quick success, expanded nationwide. However, whilst communication and decision-making at regional level worked smoothly, communication problems, together with long and complicated decision-making processes at national level apparently prevented a much larger-scale initiative to be started in 2006. The key agents driving this initiative (Wickholm, Henningson and Hultman), had to make sure that at all times they maintained close contacts to all different players involved at regional and national level.

Regarding the programme itself, Pervik, Henningson and Hultman (2011) also point to a need to improve matching processes, in particular where specific groups such as migrant entrepreneurs are targeted, and a need for better marketing and educating both mentees and mentors about the differences between mentoring and counselling or business advice. Nevertheless, Mentor Your Business is considered the most successful mentoring programme ever conducted in Sweden; and evaluations have proved its success (Pervik, Henningson and Hultman, 2011).

Key features of this programme, which renders it interesting for Tunisia, are its public-private partnership (implementing partners are both a government-owned agency and a private foundation), its simple construction and its availability for different target groups. Moreover, it covers all areas of business start-up and development such as idea stage, start-up, growth and survival, thus providing an instrument to

help entrepreneurs to ensure longer term survival and business development. Such a programme might be expected to be easily implemented in municipalities with functioning regional networks of support agencies and universities and where local industries or industry associations and chambers can provide mentors. Much depends, however, on whether Tunisian entrepreneurs would be willing to act as mentors.

Contact details and website

NyföretagarCentrum Sverige (Stiftelsen Svenska Jobs and Society)

Skeppsbron 22

111 30 Stockholm

Josefin Hildinge, project assistant for "Mentor your Business"

Tel. +46 8-551 124 05; 0709-54 35 15

Email: josefin.hildinge@nyforetagarcentrum.se

Webpages: "Jobs and Society" Mentoring (in English), http://www.nyforetagarcentrum.com/Startsida/In_English/Activities_and_campaigns/Mentor_Your_Busin ess/, (in Swedish at www.mentoregetforetag.se). ALMI Mentoring (in Swedish): http://www.almi.se/Stockholm/Mentor/

Publications in English (Pervik et al. 2011, Wikholm et al. 2004, 2005, 2007, 2008) at http://www.almi.se/Stockholm/Mentor/Om-mentorprogrammet/Forskning-och-forebilder/.

A bundled approach to promoting an entrepreneurial culture: "Germany – a Nation of Entrepreneurs" ("Initiative Gründerland Deutschland")

Background, rationale and key facts:

At the beginning of 2010, the Federal Ministry of Economics and Technology, Germany (BMWi), introduced the initiative "Germany – a Nation of Entrepreneurs". Its main objectives are to develop, bundle and promote activities which strengthen the entrepreneurial culture in Germany. In this, the BMWi works together with the main umbrella business associations such as the DIHK (industry), the ZDH (craft enterprises) and the BFB (professions). The rationale for the initiative stems from one of the major shortcomings of the German support approach, namely its decentralised structure where federal organisations, state governments and local municipalities, together with private support agencies, offer a multitude of (sometimes similar) measures and programmes without genuine coordination (Welter, 2009). Already in 1996 an evaluation of the German SME and entrepreneurship support system argued for such a strategic approach (Klemmer et al., 1996).

The initiative focuses on four areas, namely: (1) development of a new entrepreneurial culture, in order to foster awareness for and facilitate business creation, (2) targeted activities at schools and higher education institutions, in order to further promote entrepreneurship and new venture creation as career option, (3) targeted support for innovative and high-growth business start-ups, in order to foster economic renewal and competitiveness as well as employment growth, and (4) support for business succession, in order to facilitate the generational change in existing businesses. Target groups include the general society (area 1), students and pupils (area 2), high-potential entrepreneurs / businesses (area 3) and existing businesses (area 4).

Area 1: Development of a new entrepreneurial culture.

Activities include an extended offer of information for new entrepreneurs (as well as existing small firms), much of it web-based, a focus on reducing (administrative) barriers for start-ups and specific actions such as the "German Entrepreneurship Week".

Area 2: Targeted activities at schools and higher education institutions

With relation to entrepreneurship education at school, the BMWi introduced a new webpage which bundles all projects and initiatives (currently 22) aiming to foster economic and entrepreneurship school education in Germany, offering a search function for teachers and pupils.

To support entrepreneurship education at universities, the EXIST programme was been introduced in 1998, with the aim of supporting an entrepreneurial culture and environment at universities and research institutes. EXIST is financed through the BMWi and the European Social Funds. Its activities include:

- EXIST programme line "Culture of Entrepreneurship" (EXIST IV) supports projects at universities to build up an infrastructure for providing skills and support for technology and knowledge-based innovative ventures. Universities are selected through a competition and receive a three-year allowance from the BMWi.

- EXIST Business Start-up Grants support the preparation of innovative business start-up projects at universities and research institutions. The grant aims to help scientists, university graduates and students to develop their business ideas into business plans and to advance their ideas for products and services. Grant holders receive a stipend to cover their living expenses, material and equipment costs and funding for coaching. The university or research institution has to offer them infrastructure during the pre-start-up phase and provides technical and start-up-related assistance.

- EXIST Transfer of Research promotes technology-based business start-up projects in the pre-start-up and the start-up stage. The first funding phase supports research teams to work on the technological feasibility of their ideas and to prepare the start-up. The second funding phase, once the business has been set up, includes further support for prototype development and to facilitate the search for external capital (e.g. through the High-Tech Capital Fund).

- The EXIST Prime Cup is a game competition across German universities where interdisciplinary student teams compete against each other, solving business problems. It aims at increasing general interest in entrepreneurship.

- From January 2012 onwards, the German Silicon Valley Accelerator (GSVA) provides entrepreneurs with a three month intensive support and mentoring program in the Silicon Valley. GSVA aims at offering early support to internationalise a company, in particular focusing on the US market.

Area 3: Financial support for growth-oriented new ventures and support for innovative, ICT based venture ideas.

A venture capital fund, the "High Tech Gründerfonds" was set up in 2005, which targets young technology-oriented companies with significant growth and market potential. The fund focuses on early-stage financing, and also offers access to network and coaching. Investors of Gründerfonds II, launched in autumn 2011, include twelve large German companies, the KfW as public bank and the BMWi.

Related to ICT venture ideas, a special start-up competition (Innovative ICT start-up competition) was set up in 2010, open to all innovative business ideas based on ICT-based products and services, which includes manufacturing as well as cultural and creative industries. The competition is conducted twice a year. Prizes include cash awards and financial support for further training and coaching.

Area 4: Business succession.

"Nexxt" is a joint initiative of the BMWi, the KfW and representatives of business associations, the credit industry and the professions. The initiative includes a web portal with a matching service (www.nexxt-change.org) as well as awareness campaigns and workshops, information and planning tools (www.nexxt.org).

Outcomes, challenges, transferability

The initiative combines a decentralized approach to support with a strategic approach at the level of the federal government, together with a focus on public-public and public-private partnerships. Basically, "Initiative Gründerland" works through offering a joint virtual platform, where all participating programmes, agencies, projects and measures are listed according to the four categories mentioned above. It therefore allows the German government to offer comprehensive support in all important areas, ranging from creating awareness for entrepreneurship as a professional option to concrete support for graduate and student entrepreneurs as well as for those who want to grow or hand over their business. Although this initiative is partly compelled by declining public budgets, it offers at the same time the possibility to facilitate access to public support in different areas for those interested in entrepreneurship. A major challenge refers to the question how far the initiative represents a genuine strategic approach of the German government or just a bundling of different programmes, some of which have existed for a long time. Nevertheless, it also illustrates a first step towards building an integrated support system.

The following key factors render this initiative interesting for Tunisia: (i) the approach to bundling support entrepreneurship offers by means of a webpage as a first step towards an integrated system (which also is easy to access for the customer), (ii) the public private partnerships behind many of the initiatives, which have become a necessity in periods of ever decreasing public budgets, (iii) the focus on all stages of entrepreneurship encouragement and business development support, including the creation of an overall entrepreneurial culture in a country and early entrepreneurship education at primary schools.

Contact details and website

As this is a strategic initiative, contact partners exist at the level of activities and programmes which have been bundled within the initiative. Information about the strategic approach is available at http://www.bmwi.de/English/Navigation/Economic-policy/Small-business-policy/initiative-for-smes,did=388916.html (in English) or at http://www.bmwi.de/BMWi/Navigation/Mittelstand/gruenderland-deutschland.html (in German). Contacts for the specific activity areas are provided below:

Area 2 Entrepreneurship education at schools

www.unternehmergeist-macht-schule.de

Contakt BMWi Bonn

Hans-Peter Breuer

Villemombler Str. 76

53123 Bonn

Fax: +49 30/18 615-4436

Entrepreneurship at universities

EXIST, http://www.exist.de/englische_version/index.php

Project Management Jülich (PtJ)

Research Centre Jülich GmbH Office Berlin

Zimmerstraße 26-27 D-10969 Berlin

Marion Glowik, phone +49 30 201 99-423 Fax: +49 30 201 99-470

Nicole Ziesche, phone +49 30 201 99-529 Fax: +49 30 201 99-470

EXIST Prime Cup, http://www.exist-primecup.de/

priME-Projekt gGmbH

Libanonstraße 61

70184 Stuttgart

Phone +49 711 933418-12, Fax +49 711 933418-13

Thorsten Ottmüller M.A.

info@exist-primecup.de

German Silicon Valley Accelerator

CEO Dirk Kanngiesser

dirk.kanngiesser@germanaccelerator.com

Postal address: GSVA partner German Entrepreneurship GmbH

Geschwister-Scholl-Platz 1

80539 Munich

Phone +49 (89) 2180-6977

Area 3

High-Tech Gründerfonds, www.high-tech-gruenderfonds.de

Ludwig-Erhard-Allee 2, 53175 Bonn

info@high-tech-gruenderfonds.de

Phone: 0228-82300-100

Fax: 0228-82300-050

Entrepreneurship competition IKT, http://www.gruenderwettbewerb.de/

Responsible for organisation and implementation

VDI/VDE

Innovation + Technik GmbH

Steinplatz 1

10623 Berlin

Phone : +49 30 310078-0

http://www.vdivde-it.de

Area 4: Business Succession

www.nexxt.org

KfW Bankengruppe

Niederlassung Berlin

"nexxt" Team

Charlottenstraße 33/33a

10117 Berlin

Phone: +49 30 20264-5557, E-Mail: nexxt-change@kfw.de, Internet: www.kfw.de

References

Aldrich, H. E., & Auster, E. R. 1986. Even Dwarfs Started Small: Liabilities of age and size and their strategic implications. Research in Organizational Behavior, 8: 165-198.

Arroyo-Vázquez, M., & Van der Sijde, P. 2008. Entrepreneurship encouragement and business development support at universities and science parks. Industry & Higher Education, 22(1): 37-48.

Arroyo-Vázquez, M., van der Sijde, P., & Jiménez-Sáez, F. 2010. Innovative and creative entrepreneurship support services at universities. Service Business, 4(1): 63-76.

Clarysse, B., Wright, M., Lockett, A., Van de Velde, E., & Vohora, A. 2005. Spinning out new ventures: a typology of incubation strategies from European research institutions. Journal of Business Venturing, 20(2): 183-216.

Cooper, A. C., & Dunkelberg, W. C. 1986. Entrepreneurship and paths to business ownership. Strategic Management Journal, 7(1): 53-68.

Djokovic, D., & Souitaris, V. 2008. Spinouts from academic institutions: a literature review with suggestions for further research. The Journal of Technology Transfer, 33(3): 225-247.

Evans, D. S., & Leighton, L. S. 1990. Some empirical aspects of entrepreneurship. In Z. J. Acs, & D. B. Audretsch (Eds.), Economics of Small Firms - a European Challenge, Vol. 11: 79-97.

Ghulam Nabi, Holden, R., & Walmsley, A. 2006. Graduate career-making and business start-up: a literature review. Education + Training, 48(5): 373-385.

Greene, F. J., & Saridakis, G. 2007. Understanding the Factors influencing Graduate Entrepreneurship. In N. C. f. G. Entrepreneurship (Ed.), Research Report, 001/2007. Warwick: University of Warwick.

Henrekson, M., & Rosenberg, N. 2001. Designing Efficient Institutions for Science-Based Entrepreneurship: Lesson from the US and Sweden. The Journal of Technology Transfer, 26(3): 207-231.

Hofer, A., Potter, J., et al. 2010. From Strategy to Practice in University Entrepreneurship Support. Strengthening Entrepreneurship and Local Economic Development in Eastern Germany: Youth, Entrepreneurship and Innovation . OECD Local Economic and Employment Development (LEED) Working Papers, 2010/09, OECD Publishing. http://dx.doi.org/10.1787/5km7rq1xvnxp-en.

Kim, P. H., & Aldrich, H. E. 2005. Social capital and entrepreneurship. Hanover, Mass.: Now Publishers.

Klemmer, P., Friedrich, W., Lageman, B., & al., e. 1996. Mittelstandsförderung in Deutschland - Konsistenz, Transparenz und Ansatzpunkte für Verbesserungen.

Leitão, J., & Baptista, R. 2009. Public policies for fostering entrepreneurship : a European perspective. New York: Springer.

Lockett, A., & Wright, M. 2005. Resources, capabilities, risk capital and the creation of university spin-out companies. Research Policy, 34(7): 1043-1057.

Lundström, A., & Stevenson, L. 2005. Entrepreneurship policy : theory and practice. Boston, Mass.: Springer.

Markman, G. D., Phan, P. H., Balkin, D. B., & Gianiodis, P. T. 2005. Entrepreneurship and university-based technology transfer. Journal of Business Venturing, 20(2): 241-263.

Meyer, M. 2003. Academic entrepreneurs or entrepreneurial academics? research–based ventures and public support mechanisms. R&D Management, 33(2): 107-115.

Pervik, J., Henningson, T., & Hultman, C. 2011. Mentor and mentee attitudes in mentoring for entrepreneurs with foreign background. Paper presented at ICSB World Conference, Stockholm, Sweden.

Potter, J. 2008. Entrepreneurship and Higher Education: Future Policy Directions. In J. Potter (Ed.), Entrepreneurship and Higher Education: 313-335. Paris: OECD.

Sjölundh, T., Wahlbin, C. 2008. Entrepreneurial students: The case of students starting up companies in parallel with their studies at Jönköping University, Sweden. Industry & Higher Education, 22(6), 441-452.

Smallbone, D., & Welter, F. 2001. The Role of Government in SME Development in Transition Economies. International Small Business Journal, 19(4): 63-77.

Vohora, A., Wright, M., & Lockett, A. 2004. Critical junctures in the development of university high-tech spinout companies. Research Policy, 33(1): 147-175.

Welter, F. 2009. On the road to a "culture of entrepreneurship"? : assessing public support for entrepreneurship and SMEs in Germany. In J. Leitao, & R. Baptista (Eds.), Public Policies for Fostering Entrepreneurship: A European Perspective: 181-195. New York: Springer.

Wikholm, J., Henningson, T., & Hultman, C. 2004. Mentoring new entrepreneurs – a course of action to retain knowledge and experience in society. Paper presented at ICSB World Conference, Johannesburg, South Africa.

Wikholm, J., Henningson, T., & Hultman, C. 2005. Demand of mentoring of new starters. Paper presented at ICSB World Conference, Washington D.C., USA.

Wikholm, J., Henningson, T., & Hultman, C. 2007. Supply and demand for mentoring: implementing theory in practice. Paper presented at ICSB World Conference, Turku, Finland.

Wikholm, J., Henningson, T., & Hultman, C. 2008. Mentor and mentee attitudes in mentoring for new entrepreneurs. Paper presented at ICSB World Conference, H

CHAPTER 7: CONCLUSION AND WAY FORWARD

This final chapter sets out an action plan for the future development of graduate entrepreneurship support in Tunisian higher education institutions based on the assessment and detailed recommendations set out in the preceding chapters. There are two components to the recommended action plan:

1. A national strategy and exchange platform for graduate entrepreneurship support.

2. A two-level university entrepreneurship support system.

7.1. Establish an national strategy and exchange platform for graduate entrepreneurship support

In order to best allocate public policy support in enhancing effective university entrepreneurship promotion, a clear strategy should be put in place. Within this framework, higher education institutions should be given flexibility in designing and implementing a system which is tailored to their needs.

The left column of Figure 7.1 sets out the main components for such a strategy. It should include clear objectives, indicators and a performance management system that provides incentives and rewards. It should also including a mechanism for benchmark learning and a facility to gather, store and disseminate teaching resources such as an Observatory of Pedagogical Practices in Entrepreneurship.

These components of the strategy should be supported with an HEI exchange platform. The right column of Figure 1 shows the main components of such an exchange platform and how they relate to implementing the strategy. Entrepreneurship champions in all of the HEIs should promote entrepreneurship in their institution and put in place actions so that national targets are met. An academic association should be established to promote benchmarked learning across universities about what works in entrepreneurship teaching and start-up support. Training measures for entrepreneurship teachers and staff in start-up support activities should be provided to support the use of the materials stored in the Observatory of Pedagogical Practices in Entrepreneurship.

Figure 7.1. National graduate entrepreneurship strategy and platform
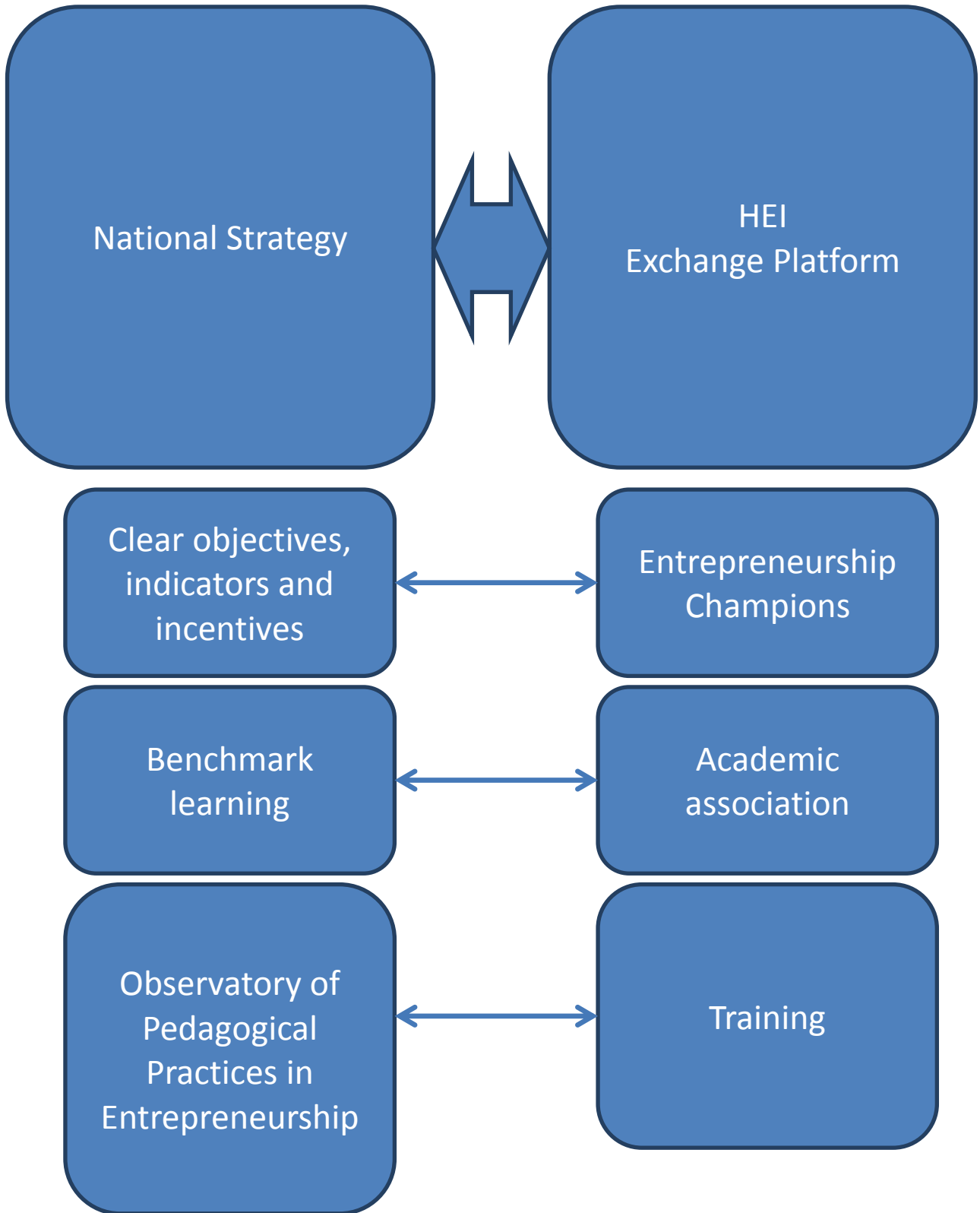
Clear objectives, indicators and incentives need to be set by national government to upgrade graduate entrepreneurship support across the Tunisian HEI system. The OECD has established a criteria list and assessment framework for what constitutes good practice in university entrepreneurship support (see Annex 2). The criteria list is a 'tool', which allows universities to self-assess and re-orient their strategy in supporting entrepreneurship, their current pool of financial and human resources, the existing support infrastructure, current practices in, and evaluation of, entrepreneurship education and start-up support. The Tunisian government could encourage the utilization of this tool, or other frameworks, such as Gibb (2007), to encourage good practices and reward achievements. Greater cross-faculty collaboration and greater connection between entrepreneurship education and start-up support provision is also needed to upscale university entrepreneurship support and to meet national objectives. The system needs to move beyond ad hoc, individual, and project-based start-up activities to more systematic and intense support. This will require co-ordination and integration of activities. In order to achieve this, a network of entrepreneurship champions should be established in each HEI who are both inward and outward facing. The individual selected as enterprise champion should have the position to influence strategic change within the HEI, and to establish links with external support providers. Their tasks may include preparing an inventory of current entrepreneurship support activities, conducting evaluations of these activities, adapting courses and approaches to the university's context, developing interdisciplinary programmes, creating links with external support organisations, developing proposals for expanding internal HEI start-up support and encouraging university staff to get more strongly involved in entrepreneurship promotion as teachers, mentors and coaches.

Benchmark learning is important for such a system to be dynamic and to ensure continuous improvement. We propose the creation of an academic association to assist in this process. It could serve as a platform for teachers and researchers working in the field of entrepreneurship, disseminate scientific and professional information to its members and organise conferences, workshops and other events.

Entrepreneurial pedagogies seek to enhance the entrepreneurial intentions and competences of students by giving them more autonomy and responsibilities in the learning process through experiments and reflexive learning and a greater application of collective and co-operative learning. A national resource centre, established on the model of the French Observatory for Pedagogical Practices in Entrepreneurship, should be set up. It should provide an on-line information system of pedagogical practices freely accessible for teachers, researchers, students and other organisations involved in entrepreneurship education and would greatly contribute to a greater utilisation of entrepreneurial pedagogies. This unit could be connected to the Ministry of Education, help to establish a critical review and support the dissemination of pedagogical initiatives and practices. Such a resource centre could gather pedagogical practices and material and make them available to those involved in entrepreneurship education, as well as establish contacts to good practice initiatives in Tunisia and other countries, and organise events and on-line services for good practice exchange.

It is also important to intensify the training of the trainers and those who provide start-up support. High-level international and national trainers should be included in these programmes and follow up should be provided for the participants enrolled such as assignment of a mentor for a certain period of time or offering regular post-training meetings to facilitate the exchange of experience and the creation of a community of practice.

It should nonetheless be recognised that awareness creation about entrepreneurship – both as a profession and process – at higher education level alone, might be too late to yield expected successes in terms of mind-set creation, competence building and actual venture creation activity. The national strategy will therefore need to build on awareness creation achievements in primary and secondary education.

7.2. Develop a two-level university entrepreneurship support system

The current Tunisian higher education entrepreneurship system has the major strength of reaching out to a large number of students with basic teaching about entrepreneurship concepts and practices. However, it lacks the more intensive support that will convert the increased interest into a greater volume of business start-ups, while the quality and depth of the entrepreneurship support offer also needs to be increased. This cannot be achieved for all students because of the costs involved in providing more intense support.

It is therefore recommended to develop the current university entrepreneurship support into a two-level support system offering basic training and internships to a broad body of students and deeper business creation and growth support to a smaller group of students with the strongest motivation and potential. Filtering and selection processes are needed as part of the extensive support in order to identify those who are the most appropriate for the more intensive activities.

Figure 7.2. Two-level university entrepreneurship support system
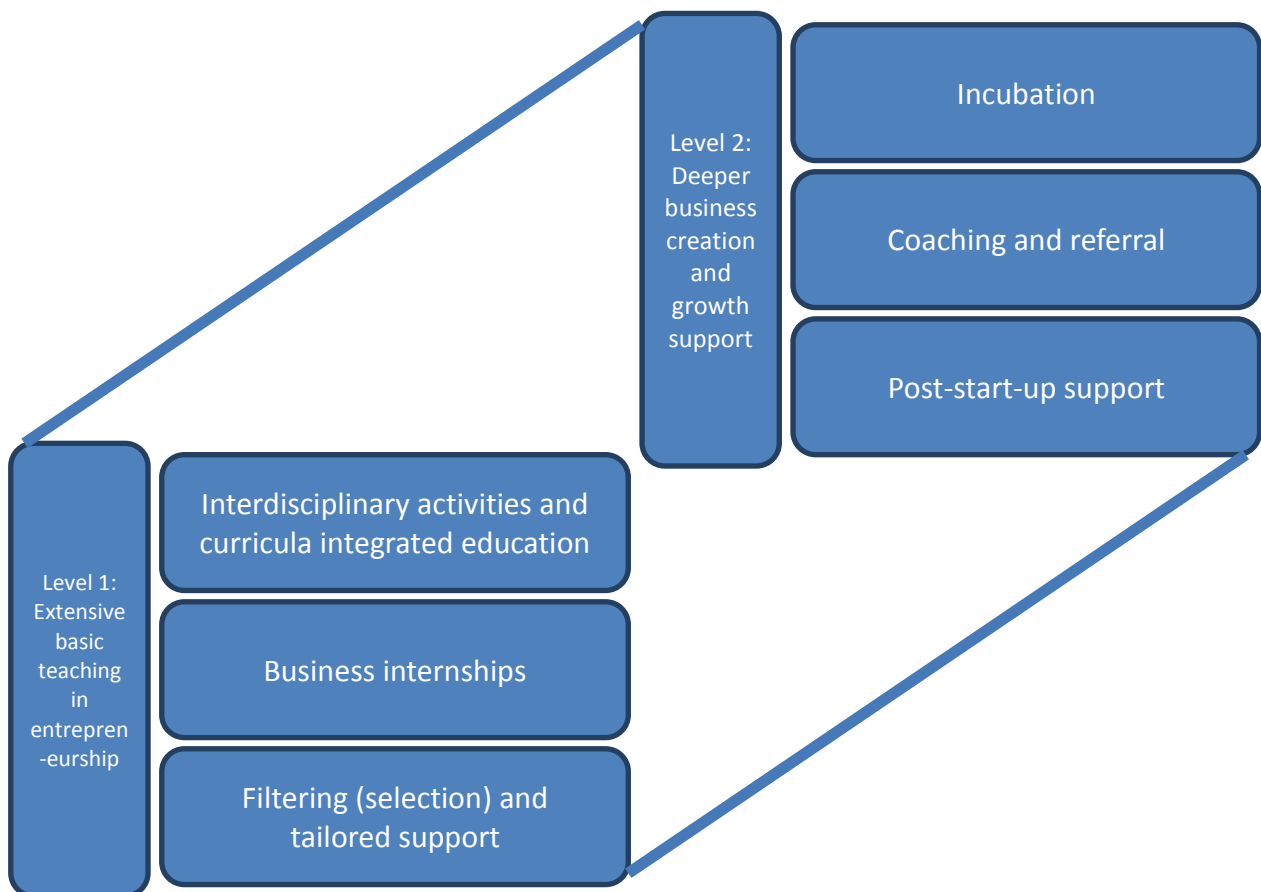
Level 1 should provide extensive basic teaching in entrepreneurship. Its key objectives and actions should include:

- Organisation of regular awareness raising actions on entrepreneurship;

- Creation of improved entrepreneurship teaching programmes.

The awareness raising activities should focus on the communication of local examples of venture creation and entrepreneurship.

The training programmes should include students from management and economy departments and engineering students. Collaboration spaces should be developed to promote interdisciplinarity. A good balance between between the theoretical and practical inputs is needed and a good balance between academic teachers and external professionals. Local entrepreneurs, preferably university graduates, should also be used on a more regular and systematic basis in the courses and entrepreneurship programmes. The training should also be adapted to the public and the specificities of the faculties. The entrepreneurship courses should cover all the problems related to the creation of a business (e.g. the idea generation process, identification of entrepreneurial opportunities, establishing teams, incentive and negotiation techniques, etc.) and discuss various types of entrepreneurial situations (takeovers, organisational entrepreneurship, social entrepreneurship, independent work, creation of a handicraft business, etc.).

The internship system should also be redesigned in order to develop internship programmes where the university is supervising learning results and providing knowledge inputs to the firm and where there is more flexibility in the organisation of internships, which would make them more accessible for business. For students interested in becoming an entrepreneur, the introduction of a "shadow the entrepreneur" scheme[18] could be considered, where students can follow an entrepreneur in her or his daily work life. For such a scheme to work, however, it needs to be well prepared and followed up by the university.

Level 2 should provide deeper and more tailored support to students with concrete business ideas. A streamlined pathway and filtering system is therefore required from Level 1 to Level 2 of the system.

For those entrepreneurs and teams with the greatest prospects, a first line of support should be provided in the incubation facilities on or near to the higher education institutions. The incubators should facilitate access of tenants to knowledge and technology generated inside university.

A second line of support involves creating connections between HEIs and local business support providers. This implies both an improved referral system and some prior business development and coaching inside of the university. The current entrepreneurship support system in Tunisia foresees that nascent entrepreneurs, if they want to access public support, do this via the local support providers outside the university. Currently, however, the linkages are limited and those contacts that exist are more based on individual action than on systematic referral from higher education institutions to local support providers. This constrains the number of students who receive start-up support and is also likely to reduce the quality of ideas being presented to outside organisations, since there is no screening, teambuilding or prior development of business ideas within higher education institutions before they move to the external support system. A greater involvement of higher education institutions in business idea preparation and start-up team formation would also facilitate a segmentation of the demand for support services, for example orienting export-oriented firms towards tailored support.

---

[18] The Shadow-an-Entrepreneur Programme http://www.soe.org.sg/ at Ngee Ann Polytechnic in Singapore is an example of such a programme.

Furthermore, post-start up support interventions should be introduced. A way to achieve this could be the introduction of a national programme for training high-potential entrepreneurs and supporting high-potential businesses. One avenue to be considered in this respect is an extension, for a transitional period to economic prosperous regions, and not only in lagging regions, of the recently introduced possibility for academic staff to engage in, or run, a business during a one-year sabbatical period with a 50% salary payment. This would set a strong incentive for professors to become entrepreneurial role models, who are research-based and close to students and graduates.

References

Gibb, A.A. (2007) - *Towards the Entrepreneurial University: Entrepreneurship Education as a Lever for Change* - National Council for Graduate Entrepreneurship (NCGE), Birmingham.

ANNEX A: AN ENTREPRENEURIAL UNIVERSITY – THE MUNICH UNIVERSITY OF APPLIED SCIENCES

Institutional overview

The Munich University of Applied Sciences (MUAS) was founded in 1971 and today has approximately 16 500 students, around 500 professors, 750 lecturers and 660 staff. The course offerings are multifaceted: 14 departments in the areas of technology, economy, social studies and design provide teaching in over 60 bachelor, master and diploma programmes. The university is led by the president Professor Kortstock, who strongly believes in the idea of entrepreneurship, three vice-presidents and the chancellor. The MUAS puts great emphasis on what is referred to in the literature as applied entrepreneurship education (Cooney and Murray, 2008; Walter and Walter, 2008), which is based on personal contact between lecturers, and students administrative staff following the guiding principle of "transforming knowledge into know-how and learners into leaders".

The Strascheg Centre for Entrepreneurship (SCE) was established in 2002 by Falk F. Strascheg, a venture capitalist and successful entrepreneur. The goal of SCE is to teach and foster entrepreneurial thinking and action at MUAS. As a non-profit company with limited liability, SCE's goals are not dictated by profits and all services are offered free of charge to the students. SCE's demanding training programmes are team-based, interdisciplinary and practical. SCE does not implement any business ideas itself, but instead concentrates on assisting motivated teams, start-ups and new companies (Sailer, 2011).

Framing and organising entrepreneurship support

International benchmarks (e.g. Gibb, 2005; NCGE, 2006; EC, 2008; OECD, 2010b) suggest that establishing entrepreneurship support effectively within a university is based upon the presence of a clear vision and strategy, which set out the goals, the targets, the approaches for achieving these, and the rationale for university involvement. Such a vision and strategy will need, in turn, a firm anchoring inside the general university strategy in order to promote entrepreneurship across the institution. This will need to be complemented, over time, by clear incentives and rewards for professors, researchers, students, and administrative staff to get involved. The latter, although not a straightforward target group, if it is assumed that given the choice of employment the likelihood of starting up a business is low, are however crucial for promoting entrepreneurship as they have a lever for alleviating administrative burdens (c.f. Phan in OECD 2010b).

We analyse the development path of entrepreneurship support at the Munich University of Applied Sciences on the following dimensions:

- institutional anchoring and embeddedness;

- internal organisation and external collaboration;

- financial resources; and

- human resources.

Table A.1 provides an overview of the dimensions and the criteria on which they are judged (see also Annex 2) and anticipates findings that will be presented in the next section. The table was produced in the following way. Information was gathered from interviews at each of the two time points (2002 and 2012) and scores were assigned on a 0-4 scale, where 0 stands for inexistent and 4 for fully achieved. For each of the criteria the difference over time is explained in terms of the influencing internal and external factors. For those criteria where internal factors – people in entrepreneurship support, students, and university organisation and governance – are predominantly influencing the result (i.e. the score reflecting the situation in 2012), more '+' are listed than for external factors, that is, public financing, private sector collaboration, and partnerships with other universities and business support organisations. For each difference in scores two '+' were set to be assigned for influencing factors. For example the change of three scores in anchoring entrepreneurship support results in the university vision and strategy leads to six '+'. In this case, the change was more the result of internal factors (++++) then of external factors (++), whereas the two-score change in activities targeted at generating attitudes, behaviour and competences is entirely explained by internal factors (++++).

Table A.1. Development path and influencing factors in the period 2002 and 2012

Dimension	Criteria	0	1	2	3	4
Institutional anchoring, embedded-ness	Entrepreneurship support is anchored in the university vision and strategy	2002	internal (++++) external (++)			2012
	Activities are targeted at generating attitudes, behaviour and competences		2002	internal (++++)		2012
	Openness for and reflection of new approaches		2002	internal (+) external (+++)		2012
Internal organisation, external collaboration	Existence of a entrepreneurship dedicated structure for viable cross-faculty collaboration		2002	internal (++) external (++)		2012
	Close co-operation with and referral to external support organisations	2002	internal (+) external (+++)	2012		
Financial resources	Adequate long-term financing of entrepreneurship support staff from university's budget	2002	internal (++) external (++)	2012		
	Self-sufficiency as a goal	2002	internal (++) external (++++)		2012	
Human resources	Existence of incentives and rewards for entrepreneurship promoters	2002	internal (++++)	2012		
	Entrepreneurship sensitive recruitment and career development of academic staff	2002	internal (++++)	2012		
	Entrepreneurship relevant regular training	2002	internal (+++) external (+)	2012		

Legend:

0= inexistent; 1= first signs visible; 2= partly achieved, but no further efforts underway; 3= partly achieved and further efforts underway; 4= fully achieved.

For each difference in scores two '+' were set to be assigned for factors of influence. A maximum difference of three scores thus results in six '+' to be assigned to either internal or external factors.

How these criteria are reflected in the organisation and delivery of entrepreneurship support and what have been the dominant influencing factors for the period 2002-2012 is discussed below.

Institutional anchoring and embeddedness

One important pre-requisite for the development path in the direction of an entrepreneurship university is the support of the university management (NCGE, 2006). The president of the university committed himself to the guideline that the MUAS and the SCE offer – together with other internal and external partners – interdisciplinary, practical and team-oriented programmes, which foster independent and responsible thinking and acting. Additionally the programmes must teach participants the process how

to get from an idea to an innovation and accompany them on their way to successful realization of their business ideas. Despite several obstacles the management of MUAS and SCE demonstrated strong leadership and consequently pursued the implementation of their vision.

The understanding of entrepreneurship promoted at MUAS is process oriented and covers various contexts such as business start-ups, existing firms and public sector organisations. When launching a new venture, the entrepreneur can either have a (somewhat) precise idea in mind, or, instead, a set of competences, skills, resources, and contacts to dwell on. Moving from an either-or situation to a greater concurrence of ideas and competences is what entrepreneurship education at MUAS aims to achieve. Ideally, entrepreneurs, firstly, know who they are, what they know, and whom they know. They are, secondly, aware of their own traits, tastes, and abilities, and thirdly they have realised the knowledge corridors they are in and the social networks they are a part of. For Sarasvathy (2001) the entrepreneur that possesses all of these "three categories of means", is an effectuation entrepreneur. She or he is less likely to use traditional types of market research (such as carefully designed surveys), but reverts to "seat-of-the-pants marketing" and selling alliances. Instead of long-term planning and net-present-value analyses, preference is given to short term planning, and hierarchical structures based on power-related procedures are replaced by strong participatory cultures nurturing the entrepreneur's relational capital. Finally, despite the greater likelihood of failure, effectuation entrepreneurs are more likely to effectively manage failures, to re-start, and to create more successful firms in the long run.

Internal organisation and external collaboration

Entrepreneurship support at MUAS is bundled in the Strascheg Center for Entrepreneurship. It started in 2002 as a small centre with two professors and two researchers. Today it has the status of an An-Institut, that is, a non-for-profit company affiliated with the university. Two-thirds of the 26 staff are employed by the university as researchers or administrative staff. The choice of organising the entrepreneurship support at MUAS in this form has been the preferred option over the establishment of a single entrepreneurship chair. Whereas this approach has facilitated interdisciplinarity in entrepreneurship support, the An-Institut choice brought with it a problem of distance to central university management. Overcoming this has required constant strategic action to building and nurturing close links with the university management.

Both public and private sources of financing played a role in establishing entrepreneurship support at MUAS. The initial financing from the Strascheg Foundation in 2002 helped to establish the SCE and prepared the ground for the institutional establishment of entrepreneurship support at the university. Yet, anchoring and embedding have been the result of one decade of cohabitation and collaboration, both facilitated by the competitive awarding of public financing. Of particular importance was the success of the SCE-MUAS partnership in acquiring German federal government funding in 2007 and in 2011. The awarding of public funding thus had an important trigger function in broadening the university-internal acceptance and support for entrepreneurship support and the above mentioned strategic anchoring. It allowed mainly for the expansion of human resources involved in the actual education and start-up support activities and investment in incubation space, which increased presence and visibility inside the university.

The investment of the Strascheg Foundation was a main enabler for the establishment of further private sector links. Today, the SCE is a well-established part of Munich's business community with a growing number of stable links to large (multinational) corporations, high growth firms as well as (traditional) small and medium sized firms. In this way, entrepreneurship support, particularly entrepreneurship education activities, are conceptualised and delivered in close proximity to the 'world of business'. This has helped to generate entrepreneurial intentions and capacities in an environment, which is close to entrepreneurial action.

That MUAS established itself as one of the core players in the local academic entrepreneurship support ecology in Munich can be attributed to internal as well as external factors. Initially co-operation between the four higher education institutions in Munich, actively involved in promoting entrepreneurship, was entirely dependent upon individuals and their personal networks. Although exchange of information worked in this constellation since people 'knew each other', it was difficult for students to 'move' between the four universities in search for interesting education activities and formats or start-up partners and subsequent support. Deciding what has been more influential is not an easy task, as success in acquiring private and public external financing is likely to raise the attractiveness of MUAS as a partner. However, the continuous desire of people engaged in entrepreneurship support at MUAS and in SCE to introduce new approaches was more influential in positioning MUAS in the local academic entrepreneurship support ecology.

Today the MUAS, the Technical University of Munich, the Ludwig-Maximilians University of Munich and the University of the Federal Armed Forces in Munich form a consortium called 4Entrepreneurship, which regularly meets to exchange information and to jointly develop new formats in education, coaching and mentoring. Examples of this co-operation are the jointly organised International Summer School, and the newly established Social Entrepreneurship Academy.

Financial resources

In 2002 entrepreneurship support activities had a budget of less than EUR 50 000, fully funded from the university. This budget has grown by 2007 for more than ten times, and has been more than doubled since then. The university budget provides long-term funding for entrepreneurship support, which is complemented by the resources put at disposal by the Strascheg Foundation. The latter has had a multiplier function – both in terms of complementing the university budget resources for entrepreneurship, as well as in attracting further private sector funds. Since 2007, public grant funding provided a significant contribution. However, on the long run, increasing revenues from industry collaboration in the form of fees, sponsorships and funding of research collaboration are expected to form the basis of a multi-source financing of entrepreneurship support at MUAS.

Human resources

Entrepreneurship support in universities, in particular entrepreneurship education, is demanding the reinforcement and development of existing human resources and employing new staff. Today at MUAS there are five full professors, who teach and research entrepreneurship, ten contracted lecturers to deliver curricula and extra-curricula entrepreneurship education, and one of the three vice president positions is dedicated to entrepreneurship. In addition, every faculty is looked after by one or two SCE staff members. These so called "Fakultätspaten" maintain regular contact with faculty members and students, inform about the SCE offer, and scout entrepreneurial opportunities linked with research and student activities.

The introduction of a reduction of teaching hours as a reward for professors who share their research for entrepreneurial purposes with students and/or act as their start-up mentors is on its way. This has been the result of long negotiations between the managements of the SCE and the university. It can be assumed that increased student take-up of extra-curricula activities was influential for this. The former can be considered as an indicator for increased entrepreneurial intentions because participation signals that students have either an interest in additional exposure or a demand for support that goes beyond the curricular offer. Hence, providing incentives are needed for professors to play a more active role in idea scouting and realisation. Besides the above mentioned reduction of teaching loads, systematic training opportunities for people involved in entrepreneurship support are under discussion.

References

Clark, B. R. (1998), 'Creating Entrepreneurial Universities. Organisational Pathways Of Transformation', Pergamon: IAU Press.

Cooney T. and Murray T. (2008), 'Entrepreneurship Education in the Third Level Sector in Ireland', Report presented to the National Council for Graduate Entrepreneurship, August 2008.

European Commission (2008), 'Entrepreneurship in higher education, especially within non-business studies', European Commission, Brussels.

Gibb, A.A. (2005), 'Towards the Entrepreneurial University. Entrepreneurship Education as a lever for change'. NCGE Policy paper series, online accessible at www.ncge.org.uk.

NCGE (2006), 'The Entrepreneurship Foundation – Annex 4', National Council for Graduate Entrepreneurship, Royal Society of Arts, Ewing Marion Kauffman Foundation.

OECD (2010a), 'Universities, Innovation and Entrepreneurship: Criteria and Examples of Good Practice', OECD Local Economic and Employment Development (LEED) Working Papers, 2010/10, OECD Publishing.

OECD (2010b), 'From Strategy to Practice in University Entrepreneurship Support: Strengthening Entrepreneurship and Local Economic Development in Eastern Germany: Youth, Entrepreneurship and Innovation', OECD Local Economic and Employment Development (LEED) Working Papers, 2010/9, OECD Publishing.

Sailer, K. (2011), 'Motivation and Responsibility: the MORE Project at the Munich University of Applied Sciences', in H.F.O. Kortzfleisch (ed.) Scientific Entrepreneurship. Reflections on Success of 10 Years EXIST, EUL Publishing.

Sailer K. and H. Gillig (2009), 'Gründungsförderung. Erfolgsfaktor Entrepreneurship für Studierende. Wissenschaftsmanagement, 3/09, pp. 14-21.

Sarasvathy S.D. (2001), 'Causation and Effectuation: Toward a Theoretical Shift from Economic Inevitability to Entrepreneurial Contingency. The Academy of Management Review, Vol. 26, No. 2 (Apr., 2001), pp. 243-263.

Volkmann, C., K.E. Wilson, S. Mariotti, D. Rabuzzi, S.V. Vyakarnam, and A. Sepulveda (2009), 'Educating The Next Wave Of Entrepreneurs: Unlocking Entrepreneurial Capabilities To Meet The Global Challenges Of The 21st Century. A report of the Global Education Initiative, World Economic Forum.

Walter, S. G. and Walter, A. (2009), 'Personenbezogene Determinanten von Unternehmensgründungen: Stand der Forschung und Perspektiven des Fortschritts. Zeitschrift für betriebswirtschaftliche Forschung 61 (2), 57-89.

ANNEX B: OECD LEED GOOD PRACTICE CRITERIA FOR UNIVERSITY ENTREPRENEURSHIP SUPPORT

Strategy	
Strategy	1. A broad understanding of entrepreneurship is a strategic objective of the university, and there is top-down support for it.
	2. Objectives of entrepreneurship education and start-up support include generating entrepreneurial attitudes, behaviour and skills, as well as enhancing growth entrepreneurship (both high-tech and low-tech).
	3. There are clear incentives and rewards for entrepreneurship educators, professors and researchers, who actively support graduate entrepreneurship (mentoring, sharing of research results, etc.).
	4. Recruitment and career development of academic staff takes into account entrepreneurial attitudes, behaviour and experience as well as entrepreneurship support activities.
Resources	1. A minimum long-term financing of staff costs and overheads for graduate entrepreneurship is agreed as part of the university's budget.
	2. Self-sufficiency of university internal entrepreneurship support is a goal.
	3. Human resource development for entrepreneurship educators and staff involved in entrepreneurship start-up support is in place.
Support infrastructure	1. An entrepreneurship dedicated structure within the university (chair, department, support centre) is in place, which closely collaborates, co-ordinates and integrates faculty-internal entrepreneurship support and ensures viable cross-faculty collaboration.
	2. Facilities for business incubation either exist on the campus or assistance is offered to gain access to external facilities.
	3. There is close co-operation and referral between university-internal and external business start-up and entrepreneurship support organisations; roles are clearly defined.

Entrepreneurship education	1. Entrepreneurship education is progressively integrated into curricula and the use of entrepreneurial pedagogies is advocated across faculties.
	2. The entrepreneurship education offer is widely communicated, and measures are undertaken to increase the rate and capacity of take-up.
	3. A suite of courses exists, which uses creative teaching methods and is tailored to the needs of undergraduate, graduate and post-graduate students.
	4. The suite of courses has a differentiated offer that covers the pre-start-up phase, the start-up phase and the growth phase. For certain courses active recruitment is practiced.
	5. Out-reach to Alumni, business support organisations and firms is a key component of entrepreneurship education.
	6. Results of entrepreneurship research are integrated into entrepreneurship education messages.
Start-up support	1. Entrepreneurship education activities and start-up support are closely integrated.
	2. Team building is actively facilitated by university staff.
	3. Access to private financing is facilitated through networking and dedicated events.
	4. Mentoring by professors and entrepreneurs is offered.
	5. University-internal entrepreneurship support is closely integrated into external business support partnerships and networks, and maintains close relationships with firms and Alumni.
Evaluation	1. Regular stock-taking and performance checking of entrepreneurship activities is undertaken.
	2. Evaluation of entrepreneurship activities is formalised and includes immediate (post-course), mid-term (graduation), and long-term (Alumni and post-start-up) monitoring of the impact.

Entrepreneurship, SMEs and Local Development

OECD Reviews on Skills and Competences for Entrepreneurship

PROMOTING GRADUATE ENTREPRENEURSHIP IN TUNISIAN UNIVERSITIES

This report provides the main findings and recommendations of a case study review of entrepreneurship education and business start-up support in Tunisian universities and universities of applied sciences as part of a series of reviews on Skills and Competences for Entrepreneurship carried out by the Local Economic and Employment Development (OECD) Programme of the Organisation for Economic Co-operation and Development (OECD).

The review examines current strategies, structures and practices for entrepreneurship promotion in Tunisian universities highlighting activities to instil entrepreneurial intentions and to favour business creation among graduates. One of the core strengths of the Tunisian system is that it reaches a large proportion of students with basic entrepreneurship teaching. The report sets out the opportunities to improve this teaching using international best practice models and to complement it with more intense start-up support for those students ready to go further.

To this end, the report recommends the creation of a national graduate entrepreneurship strategy with clear objectives, indicators and incentives, methods for benchmarked learning and a resource bank of teaching materials together with an exchange platform for universities on entrepreneurship support practices, with an interface through university enterprise champions, an academic association, and improved training of trainers. The existing basic teaching in entrepreneurship should be improved with new activities and approaches and a new level of deeper business creation and growth support introduced including incubation, coaching and referral and post start-up support.