MSM | MAASTRICHT SCHOOL OF MANAGEMENT

Working Paper No. 2015/01

Entrepreneurship Education in Ethiopian universities: Institutional assessment
Synthesis Report

Huub L.M. Mudde[1], Dugassa Tessema Gerba, Alemfrie Derese Chekol

July 2015

© The authors, 2015

[1] Maastricht School of Management, PO Box 1203, 6201 BE Maastricht, Netherlands. +31 43 38 70 808, E-mail: Mudde@msm.nl

MSM

The Maastricht School of Management is a leading provider of management education with worldwide presence. Our mission is to enhance the management capacity of professionals and organizations in and for emerging economies and developing countries with the objective to substantially contribute to the development of these societies.

www.msm.nl

The views expressed in this publication are those of the author(s). Publication does not imply endorsement by the School or its sponsors, of any of the views expressed.

Entrepreneurship Education in Ethiopian universities: Institutional assessment

Synthesis Report

July 2015

Huub L.M. Mudde
Dugassa Tessema Gerba
Alemfrie Derese Chekol

Within the framework of the Nuffic funded NICHE project 'University Leadership and Management Capacity Development'

Contents

Tables 4
Figures 4
Boxes 5
Abbreviations 6
Acknowledgements 7
Executive Summary 8
Introduction 18
1. Entrepreneurship in Higher Education 20
1.1 Entrepreneur and entrepreneurship 20
1.2 Entrepreneurship, economic development and entrepreneurship education 21
1.3 Objectives and pedagogical aspects of entrepreneurship education 22
1.4 Entrepreneurship education in Ethiopia 24
1.5 The entrepreneurial university 25
1.6 Entrepreneurial University assessment framework 26
2. Entrepreneurship development in Ethiopia: national policy context 29
2.1 National development and entrepreneurship policies 29
2.2 Higher Education Proclamation 31
2.3 Entrepreneurship development institutions 33
3. Assessment methodology and process 35
3.1 Purpose and objectives 35
3.2 The framework 36
3.3 Research sample and university respondents 36
3.4 The study approach 37
3.5 The dataset 39
4. Empirical findings 41
4.1. Leadership and Governance 41
4.2. Organizational capacity, people and incentives 49
4.3. Entrepreneurship Development in Teaching and Learning 53
4.4. Pathways for Entrepreneurs 60
4.5. Cooperation with external stakeholders 64
4.6. Internationalization 68
4.7. Impact measurement 70

4.8. Statistical analyses 70
5. Conclusions 75
5.1 Leadership and Governance 75
5.2 Organizational capacity 76
5.3 Entrepreneurship Development in Teaching and learning 77
5.4 Pathways for Entrepreneurs 78
5.5 Cooperation with external stakeholders 79
5.6 Internationalization 80
5.7 Impact measurement 80
5.8 Conclusions beyond university level 81
6. Recommendations 82
1. Leadership and Governance 82
2. Organizational capacity 83
3. Teaching and learning 84
4. Pathways for Entrepreneurs 84
5. Cooperation with external stakeholders 85
6. Internationalization 86
7. Impact measurement 86
8. Recommendations beyond university level 86
7. A renewed Entrepreneurship Development Program for BSc students 88
7.1 Competency framework in entrepreneurship education 88
7.2 Experiential teaching 89
7.3 From awareness to business start-up 90
8. University Entrepreneurship Development Centres and Incubators 92
8.1 Entrepreneurship Development Centres 92
8.2 Incubators 94
Bibliography 96

Annex 1. Survey 'Ethiopia University Entrepreneurship Assessment' 99
Annex 2. Entrepreneurial and business development needs in the pre start-up and start-up stages of the business life cycle 103
Annex 3: Proposed course content of entrepreneurship education for undergraduate studies 105
Annex 4. Opening Speech at the Validation workshop on Entrepreneurship Education in Ethiopian Universities 107

Tables

Table 1. Doing Business Index Ethiopia 31
Table 2. Composition of the research sample 37
Table 3. Number of key informant interviews and FGD participants by university 39
Table 4. Number of questionnaires filled-out by university 40
Table 5. Aggregated survey results on 'Entrepreneurial strategy' 42
Table 6. Aggregated survey results on 'High-level commitment' 44
Table 7. Entrepreneurship centers at the universities studied 44
Table 8. Aggregated survey results on 'Internal coordination' 46
Table 9. Aggregated survey results on 'Level of autonomy' 47
Table 10. Aggregated survey results on 'Support to regional development' 48
Table 11. Aggregated survey results on 'Internal cooperation' 51
Table 12. Revenue shares for university staff in business assignment 52
Table 13. Aggregated survey results on 'Human Resources Management' 53
Table 14. Aggregated survey results on 'Student initiatives' 54
Table 15. Aggregated survey results on 'Education programs' 58
Table 16. Aggregated survey results on 'Teaching methods' 59
Table 17. Aggregated survey results on 'Research' 60
Table 18. Aggregated survey results on 'Awareness programs' 61
Table 19. Aggregated survey results on 'Business Development Support' 62
Table 20. Aggregated survey results on 'Access to finance' 63
Table 21. Aggregated survey results on 'Level and structure of cooperation' 65
Table 22. Aggregated survey results on 'Recognition' 66
Table 23. Aggregated survey results on 'Enterprising' 67
Table 24. Aggregated survey results on 'Student and staff mobility' 69
Table 25. Aggregated survey results on 'International networks' 69
Table 26. Aggregated survey results on 'Impact measurement' 70
Table 27. Results per category of the Entrepreneurial University framework per university 71
Table 28. Results per category of the Entrepreneurial University framework per type of respondents 71
Table 29. Results per variable of the Entrepreneurial University framework per university 73
Table 30. Results per variable of the Entrepreneurial University framework per type of respondents 74
Table 31. Entrepreneurship Development within the 9 universities assessed, March 2015 79

Figures

Figure 1. The Entrepreneurial University: from students to institutions 26
Figure 2. Example of an entrepreneurial university development model. Source: MSM, 2015 82
Figure 3: Portfolio of possible services for prospective entrepreneurs. Source: MSM, 2014 93

Boxes

Box 1. Income generation by AAU 50
Box 2. Student social entrepreneurship 54
Box 3. Entrepreneurship and Enterprise Development course description, objectives and mode of delivery 55
Box 4. Entrepreneurship and Small Business Management course description and objectives, Adama Science and Technology University 56
Box 5. Examples of entrepreneurial teaching methods 58
Box 6. On-campus student micro businesses at Aksum University 62
Box 7. Female Graduate Entrepreneurship Program at Wollega University 62
Box 8. Revolving fund at St Mary University 63
Box 9. Partnership between Jimma University and ABH Services PLC. 66
Box 10. Community Based Education (CBE) strategies of Jimma University 68
Box 11. Student Exchange at Adama University of Science and Technology (ASTU) 69

Abbreviations

AAU	Addis Ababa University
AAiT	Addis Ababa Institute of Technology
ASTU	Adama Science and Technology University
BDS	Business Development Service
BSc	Bachelor of Science
CBE	Community Based Education
CBTP	Community based training program
CoBE	College of Business and Economics
CoEE	Centre of Excellence in Entrepreneurship
DTTP	Departmental Team training Program
EC	European Commission
EDC	Entrepreneurship Development Center
EDP	Entrepreneurship Development Program
EFMD	European Foundation for Management Development
ESC	Education Strategy Center
ETW	Entrepreneurship Training Workshop
FEMSEDA	Federal Micro and Small Enterprise Development Agency
GEM	Global Entrepreneurship Monitor
GTP	Growth and Transformation Plan
HERQA	Higher Education Relevance and Quality Agency
ICRA	International Centre for development oriented Research in Agriculture
IPB	Agricultural University Bogor (Indonesia)
IoT	Institute of Technology
IP	Intellectual Property
LEED	Local Economic and Employment Development Programme (of the OECD)
MBA	Master in Business Administration
MSc	Master of Science
MSM	Maastricht School of Management
MSME	Micro, Small and Medium Enterprise
NCEE	National Centre for Entrepreneurship and Education (United Kingdom)
NICHE	Netherlands Initiative for Capacity development in Higher Education
NPU	New Public University
PhD	Doctor of Philosophy
SME	Small and Medium Enterprise
ToT	Training of Trainers
TTP	Team training Program
OECD	Organisation for Economic Co-operation and Development
REMSEDA	Regional Micro and Small Enterprise Development Agency
VAT	Value-added tax
VILR	Vlaamse Inter Universitaire Raad / Flemish Inter University Council
UDEC	Dar es Salaam Entrepreneurship Centre
ULMCD	University Leadership and Management Capacity Development
UNCTAD	United Nations Conference on Trade and Development

Acknowledgements

This study has been made possible through the support of many people within the Ethiopian Higher Education sector, in particular at the nine universities assessed: Addis Ababa University, Adama University of Science and Technology, Aksum University, Dire Dawa University, Jimma University, Mizan-Tepi University, Unity University, Wollega University, and Wollo University. We thank them all.

Special thanks are for the leadership of the Ethiopia Education Strategy Center (ESC), Dr. Aklilu Hailemichael and Dr. Solomon Mogus, who made this entrepreneurship assessment possible within the framework of the EP-Nuffic funded project on university leadership and management capacity development (ULMCD). Thanks for your active collaboration. Ayalew Teklehaymanot, policy officer at ESC was invaluable for the way he supported the full team in organizing field trips, collecting data and facilitating meetings.

A big thanks goes to Dr. Asmelash Beyene who has given valuable advise based on his many years of working experience, who sharpened our minds, and who helped in linking up to relevant key stakeholders.

Through these named persons, we would like to thank all other Ethiopian university staff and faculty that have been of help in all kind of ways.

The research team

Executive Summary

This report presents the findings of an entrepreneurship assessment of universities in Ethiopia, carried out within the context of the University Leadership and Management Capacity Development (ULMCD) project that has been implemented and coordinated by Maastricht School of Management (MSM), and funded by EP-Nuffic.

Ethiopia is at the start of its second five year Growth and Transformation Plan (GTP2) which aspires to make Ethiopia a middle income county by 2025. As a result, the government of Ethiopia had been pursuing, as one of its strategies, measures to promote small and medium enterprises (SMEs) to spur the economies' growth and to increase youth employability (64.1% of the population is below 25 years of age).

Universities play a significant role in the production of human resources the economy demands; education including entrepreneurship is critical as it contributes to job creation and leads to considerable reduction of poverty. Equally, universities have an important role to play in regional innovation systems. In Ethiopia, the number of graduates is growing fast and institutional challenges of universities are large because more than 20 new universities have been established in the last decade and the foundation of another 11 universities announced in 2015.

It is this pertinent challenge of capacitating the growing number of students put upon the (mostly very young) Ethiopian universities in which this study is framed with the purpose to advise the Ethiopian universities on how to strengthen their entrepreneurial policy, activities, facilities, and educational programs, and to advise the Ethiopian Ministry of Education/Education Strategy Centre (ESC) on how it could support the Ethiopian universities on these matters.

Conceptual framework and approach

In this study, entrepreneurship is defined as the "tendency to create value through identification and exploitation of opportunities. This includes starting and managing one's own business". This broad definition also includes concepts as intrapreneurship and technopreneurship. An entrepreneurial university is defined as:

"Entrepreneurial higher education institutions are designed to empower staff and students to demonstrate enterprise, innovation and creativity in research, teaching and pursuit and use of knowledge across boundaries. They contribute effectively to the enhancement of learning in a societal environment characterized by high levels of uncertainty and complexity and they are dedicated to creating public value via a process of open engagement, mutual learning, discovery and exchange with all stakeholders in society - local, national and international." (Gibb & Haskins, 2014)

The framework for this entrepreneurship assessment is built on the premise that making students more entrepreneurial requires an entrepreneurial university. The framework consists of seven categories derived from the online self-assessment tool for European Entrepreneurial Higher Education Institutions named HEInnovate (European Commission & OECD, 2013):

1. Leadership and Governance: important factors a higher education institution may consider in order to strengthen its entrepreneurial agenda.
2. Organizational capacity, people and incentives: key areas a higher education institution may look at if it wishes to minimize the organizational constraints to fulfilling its entrepreneurial agenda.

This includes the financial strategy, attracting and retaining the right people and incentivizing entrepreneurial behaviour in individuals.

3. Entrepreneurship Development in Teaching and Learning: factors related to the organizational structure to support entrepreneurial development as well as tools to deliver education and training opportunities.
4. Pathways for Entrepreneurs: concerning providing access to internal and external opportunities and expertise to support "intrapraneurs" in their career development or enterprising individuals on their pathway to becoming an entrepreneur.
5. Higher Education Institution – Business / External relationships for Knowledge Exchange: areas related to relationships with key partners and collaborators for achieving the full potential of a higher education institution, in entrepreneurship, in research, teaching and in other third mission activities.
6. The entrepreneurial higher education institution as an internationalized institution: factors influencing the international environment on the entrepreneurial aspects of teaching, research, talent development, new opportunities and culture.
7. Measuring the impact: areas where an institution might want to measure impact.

In this study, a sample is taken from the first and second generation public universities, and for comparison, the developments at private universities have also been taken into account. The Civil Servants University and the Defense University are not taken into consideration given their specific profile. The sample composition of nine universities is as follows:

1st Generation
Addis Ababa University
Adama University of Science and Technology
Jimma University
2nd Generation
Aksum University
Dire Dawa University
Mizan-Tepi University
Wollega University
Wollo University
Private Universities
Unity University

The data collection process was carried out in December 2014 and January and February 2015. Data have been collected via 1) content analysis of university documents, in particular university strategic plans and course descriptions, facts and figures; 2) a structured survey focusing on needs and perceptions among leadership, faculty, students, and key external stakeholders; 3) in-depths interviews with leadership; and 4) focus group discussions with faculty, students, and external stakeholders. In total, 223 persons have been interviewed or participated in focus group discussions, and 206 respondents filled the questionnaire.

Major findings

1. Leadership and Governance

On university strategy:

- Entrepreneurship education and entrepreneurial activities are at their infant stage at Ethiopian universities. However, entrepreneurial elements exist in several of the university strategies assessed, of which the most prominent is income generation.

- Absence of an entrepreneurial strategy leads to fragmented activities: hardly any relations are made between income generation activities, entrepreneurship awareness raising among students, entrepreneurship education courses, university – industry linkages, and community development. Consequently, the intention to become a solid entrepreneurial university is not clearly reflected in the strategy and vision of universities.
- Universities are reactive in getting support for strengthening an entrepreneurial agenda from relevant government actors like the Ministry of Finance and Development, Ministry of Education, Ministry of Science and Technology, National Auditor, and Parliament.

On high-level commitment:

- Active engagement of the top-leadership in fostering entrepreneurial activities is correlated with positive results. It leads to a more open attitude and more support towards student and staff initiatives, new centers being set-up, and enterprise development.
- The Board as highest governing body is not pro-active in driving the universities' entrepreneurial agenda but has been supportive of initiatives coming from the top-management of the universities.

On internal coordination and integration:

- Although an increasing number of Entrepreneurship Development Centers are being set-up, there is neither a university wide internal coordination of entrepreneurship development activities, nor a model for coordinating and integrating entrepreneurial activities. Rules and regulations are absent, or not comprehensive or not always known.

On level of autonomy:

- Although the Higher Education Proclamation stipulates autonomy for the universities, the level of autonomy of each public university in Ethiopia in practice does not reflect the full spirit of the Proclamation. Rules, regulations and directives that guide actions in support of entrepreneurial activities at different levels of the university are missing. As a result, the limited autonomy has not proved conducive in encouraging entrepreneurial attitudes of staff and students like risk taking, pro-activeness, and self-initiative.

On support to regional community development:

- When it comes to support to regional community development the picture is mixed with some universities very active, while others are at the start of building up relationships. Nearly all universities allocate large amounts for community outreach but the outcomes fall short of the expectations of external stakeholders. The foregoing problem is partially attributed to lack of effective staff incentives mechanisms.
- Regional or zonal platforms in which government institutions, private sector, and the university together structurally partner and implement a shared vision and strategy of regional development are lacking. Most of the universities have a long way to go to be a leading actor in regional development.
- Limited number of meaningful partnerships exist with key players in the private sector.
- Unlike public universities, the private universities are not visibly involved in regional community development programs.

2. Organizational capacity

On financial strategy:

- All public universities in Ethiopia are almost entirely funded by the national Treasury, hence the pressure for generating additional income is still low. Income generation through enterprising is still at an initial stage.
- Most of the income generated by the universities is from student tuition fees from evening, distance and summer programs, as well as from consultancy services in the case of some universities. However, many of the consultancies are handled by individuals not benefiting the universities.

- The potential to generate internal revenue through consultancy, research, university – industry linkages are substantial.
- The main difference for private universities is that they generate their main income out of tuition fees.
- None of the universities assessed have allocated an earmarked budget for entrepreneurship.

On internal cooperation:

- By and large the universities are strongly mono disciplinary organized in which cooperation among faculties and colleges differ per institute: in most of the universities studied internal cooperation is limited, whilst others show good experiences. It is encouraging to note that cross-disciplinary cooperation in research is stimulated through funding criteria.

On Human Resources Management:

- Entrepreneurship is not mainstreamed in staff development plans, training, recruitment, performance evaluations and reward systems, not even for positions with an explicit entrepreneurial character, like lecturers in entrepreneurship, managers of university enterprises, or university – industry linkage officers.
- Reward systems for staff in public universities active in business assignments exist in some (but differ largely) and are lacking in others.
- It is highly questionable whether the existing working and learning environment on campus is encouraging entrepreneurial attitudes of staff and students like risk taking, pro-activeness, and self-initiative.
- At private universities, working experience in the sector of relevance for the subjects taught is a criterion for recruitment. Many lecturers work part-time besides running a business or otherwise.

3. Entrepreneurship Development in Teaching and learning

On academic structures and positions:

- No senior faculty on entrepreneurship exist in any of the universities studied, neither foreseen. Faculty engaged in entrepreneurship education are by and large more junior lecturers from the Colleges of Business and Economics.

On student initiatives:

- At the universities there are not yet student organizations that specifically focus on entrepreneurship. In most of the universities studied, students mentioned the lack of funds and support by the university to encourage student start-up projects. It seems that policies and regulations are not clear resulting in different approaches and attitudes from university management and staff towards student initiatives. In several universities the new Entrepreneurship Development Center is seen as the unit that will give support to students with business ideas.
- Students are mentioning a serious challenge which is to deal with internal bureaucracy. For them it is not easy to understand the structure of the organization where they have to go for what. It is their experience that staff has the tendency to first deny support and are not so easily willing to cooperate.

On educational programs:

- In the undergraduate program of the public universities one entrepreneurship course is offered at the last year of the study program. The exact name and number of credits differ per department and university, but on average it is a three credits common course. The course is part of curricula of most but not necessarily all the departments of the Colleges of Business and Economics and of the Institutes of Technology. In addition, the course is offered at some of the departments in Natural and Computational Science/Informatics, Social Sciences, and Agriculture/Veterinary.

- It is believed that the course in the current form is not suited for creating more entrepreneurial graduates. The majority of students approach the course just as any other course they need to pass in order to get graduated.
- The entrepreneurship course is mainly offered as a supportive or common course, downplaying its importance. Examples are given of lecturers not coming to class, demonstrating no commitment.
- The need is widely expressed to increase the capacity of staff offering entrepreneurship education. Currently, many of them lack practical experiences and sufficient training on how to provide entrepreneurship education.
- At the private university included in this study the situation is comparable to the public universities with one entrepreneurship course offered in the final year of the study program.

On teaching methods:

- The concept of enterprising education teaching methods is fairly new in Ethiopia, hence it is not widely practiced. The dominant methodologies used in teaching entrepreneurship are lecturing accompanied by group business plan writing.
- However, there are universities that claim more experiential and entrepreneurial teaching methods. Performing experiential and entrepreneurial teaching methods is mainly individually driven not institutionally driven.
- No frequent review of the effectiveness of the teaching methods is made to develop a plan to formulate improved methodology.

On research on entrepreneurship:

- Given the recent attention for entrepreneurship in combination with the limited research capacity and experience at Ethiopian universities, limited research on entrepreneurship has been carried out.
- In general there is little experience and expertise on using knowledge obtained in research for educational purposes.

4. Pathways for Entrepreneurs

On awareness raising on entrepreneurial abilities:

- At many universities a two to five days employability and entrepreneurship orientation program is offered at the end of Bachelor study to all (or many) graduates, just before graduation. Presentations of successful local entrepreneurs are an integral part of this program.
- There is no systematic approach to strengthen entrepreneurial awareness among staff.
- At the private university studied no specific entrepreneurship awareness program is organized nor foreseen.

On Business Development Support:

- In general, university leadership is in favor of supporting students to start-up a business and evidence is found of some activities.
- In none of the universities studied a comprehensive Business Development Support program exists that covers all the phases of the business cycle (awareness, start-up, sustaining and growth, exit). In several of the universities, the new Entrepreneurship Development Centers are foreseen to take up this role.

On access to finance:

- In general, universities are not offering a helping hand in accessing start-up and operating capital for students and staff. Relations with financial institutions are weak or absent.

On facilities:

- Some facilities for Business Development Support exist within universities like an Entrepreneurship Center, an incubation center or business park, but these are hardly operational.

5. Cooperation with external stakeholders

On level and structure of cooperation:

- There is a mixed picture of the level in which universities are engaged with external stakeholders. Older universities have partnership agreements with international and local organizations, majority of which are educational institutions, whilst younger universities have hardly any structured partnerships.
- In general, formal and organized cooperation with private sector is limited. Cooperation is mainly with governmental institutions and government owned businesses.
- Stakeholders are of the opinion that private sector's expertise can be utilized in the design and implementation of the entrepreneurial agenda of university.
- Opportunities for cooperation with the universities are not exploited because of some challenges that hinder the integration of the university and external stakeholders.

On recognition of external stakeholders:

- An institutional approach for involving external stakeholders in education and research at Ethiopian universities seems absent. Hardly any cross-fertilization seems to take place between the world of practitioners and academia in favor of a more entrepreneurial way of teaching, of a stronger market orientation in education and research. Guest lectures are rarely happening, no professorships are offered to external experts, and external stakeholders are not allowed to use university facilities and services.
- External stakeholders, most importantly, players in the private sector believe that the universities are not well prepared to work with them.

On enterprising:

- As far as information is obtained, almost none of the Ethiopian universities have a partnership with an external company aimed at jointly undertaking business as part of its income generating strategy.

On internships:

- Internships of four to six months are integral part of the curriculum of many departments, in particular in engineering. In health, students are assigned to hospitals for even a longer period. Information obtained demonstrates that the practice of internships is often problematic, seemingly underestimated and not well organized.
- According to external stakeholders, beyond the internship, students have very little opportunity of experiencing business during their study.

6. Internationalization

- Internationalization is embedded in the strategic plans of the public universities as an important pillar for improvement of the academic quality, research, standing, network, and resource base of the university. Too little information is obtained in this study to fully assess the results of these strategies. But it becomes clear that internationalization at the older universities studied is stronger than at the younger generation universities.
- A large proportion of Ethiopian scholars are pursuing an MSc or PhD abroad, building-up an international network. In most of the universities, staff mobility is through personal initiatives.
- Student exchange programs of Ethiopian students going abroad are hardly in place, sometimes integrated in a donor funded project.
- Ethiopian universities are starting to become more involved in international networks, in first instance often through donor funded projects.

7. Impact measurement

- In general, impact measurement in higher education is underdeveloped, no data are yet available, neither a system for collecting data on the results of entrepreneurial activities.

- Some initiatives are noted of universities that are planning to develop tracer studies and impact measurements of business awareness programs to become a task for the new Entrepreneurship Development Centers or foreseen alumni centers.

8. Conclusions beyond university level

- An increasing number of initiatives are evolving in support of business development in Ethiopia. However the current environment is not yet conducive for doing business, compared to international standards, and a national entrepreneurship policy that would guide the developments is not yet in place.
- A combined effort by key stakeholders in government to promote and support entrepreneurship development and the role of HEI in this development is missing. This are stakeholders such as the Ministry of Finance and Development, Ministry of Education, Ministry of Science and Technology, National Auditor, and Parliament.
- Entrepreneurship development at higher education institutions would ideally be based on preparatory programs before entering the universities in which young Ethiopians are already stimulated to develop entrepreneurial attributes. However, up to date, no attention is given to entrepreneurship education during general education which makes the tasks for higher education the more challenging.
- Developments in higher education in Ethiopia are going fast with many new universities, young unexperienced faculty and an increasing number of students to cater for. In this context, entrepreneurship education is a new phenomenon. Little opportunities however exist among the institutions and their faculty to share lessons learned.

Recommendations

1. Leadership and Governance

On university strategy:

- The university should include an entrepreneurial agenda in its vision, mission and strategy.
- Universities need to be pro-active in dealing with key stakeholders of relevance such as the Ministry of Finance and Development, Ministry of Education, National Auditor, Parliament, etc. in popularizing their entrepreneurial agenda.
- Universities need to strategically integrate income generation activities, entrepreneurship awareness raising among students, entrepreneurship education courses, university – industry linkages, and community development.

On high-level commitment:

- The top-leadership should actively engage in a sustained way in fostering entrepreneurial activities.
- The university Boards should play a significant role in pushing the universities' entrepreneurial agenda.

On internal coordination and integration

- The university should enhance and develop a model to strengthen internal coordination of entrepreneurship development activities.
- Universities should strengthen or create a visible structure for entrepreneurial activities with a formal position and an allocated budget that will allow to act university wide.
- There must be rules and regulations and a responsible body to guide and monitor entrepreneurial activities and entrepreneurship education.

On level of autonomy:

- The autonomy of universities as stipulated in the Higher Education Proclamation should be practiced for the universities to be more entrepreneurial.

- The Proclamation needs to be operationalized by rules, regulations and directives that guide actions in support of entrepreneurial activities at different levels of the university.

On support to regional community development:

- The universities should engage in knowledge-driven result-oriented partnerships with external stakeholders so that the contributions of the university in regional and local development agenda are felt by the community and the region.
- Regional or zonal platforms in which government institutions, private sector, and the university together structurally partner and implement a shared vision and strategy of regional development should be developed.
- Universities should seek strong collaboration with entrepreneurship development institutions such as EDC-Ethiopia to enhance the quality of their entrepreneurship development initiatives.
- More emphasis should be given to partnering with the private sector.

2. Organizational capacity

On financial strategy:

- The universities should strengthen and institutionalize the efforts to generate internal income through consultancy, contract research, enterprising, fund raising including from alumni, and university – industry linkages.
- Universities should allocate earmarked budget for entrepreneurship.

On internal cooperation:

- The universities should strengthen cross-disciplinary cooperation in entrepreneurial activities in education, research, community service, and enterprising.

On Human Resources Management:

- If universities are to become entrepreneurial, it is important to attract, motivate, and reward the staff adequately.
- Staff in positions with an explicit entrepreneurial character, like lecturers in entrepreneurship, managers of university enterprises, or university – industry linkage officers should have entrepreneurship experience, attitudes and skills. Staff should be allowed for continuous training to enhance their knowledge and skills on entrepreneurship.
- University should create an annual forum of staff to review and plan entrepreneurial activities.
- Entrepreneurship should be mainstreamed in staff development plans, recruitment, performance evaluations and reward systems.
- Universities should improve the existing working and learning environment ('Student development focused campus') to encourage entrepreneurial attitudes of staff and students like risk taking, pro-activeness, and self-initiative.

3. Teaching and learning

On student initiatives:

- Student initiatives and the establishment of student entrepreneurship clubs or association should be encouraged.
- Policies and regulations on support of student and staff entrepreneurial initiatives at university level should be formulated and communicated widely.
- Ample efforts have to be made that what is learned in class can be operationalized by the students, whether on campus or beyond.

On educational programs:

- To make a clear distinction in the curriculum between courses about entrepreneurship (basically the current course) and courses for entrepreneurship, which are meant to support students to become entrepreneurs.
- Universities are encourages to set-up committees drawn from those teaching entrepreneurship courses as well as other critical disciplines that can make important inputs with the purpose to

improve the existing course content and determining the sequencing of the delivery of the courses.

- To design courses for entrepreneurship that are: i) practical in content, away from the current theoretical orientation; ii) practical in delivery; iii) involving entrepreneurs in the delivery, and iv) are offering facilities where entrepreneurial issues are practiced.
- To start offering entrepreneurship courses as of the first year to all students of all departments, and give higher formal and informal status to these courses.
- The university should invest in increasing the capacity and number of staff offering entrepreneurship education.

On teaching methods:

- More experiential teaching methods should be applied within the universities.

On research on entrepreneurship:

- The university should give attention to research on entrepreneurship as a cross-cutting issue.

4. Pathways for Entrepreneurs

On awareness raising on entrepreneurial abilities:

- The university should develop a systematic approach to strengthen entrepreneurial awareness at all levels of the university.

On Business Development Support:

- The university needs to develop a systematic Business Development Support program that covers all the phases of the business cycle (awareness, start-up, sustaining and growth, exit).
- Entrepreneurial ideas of students and staff should be solicited on competitive basis, incentivizing those who are really interested to start-up a business.

On access to finance:

- The university needs to facilitate access to start-up and operating capital for students and staff, through different modalities like granting collateral, creating a university start-up (revolving) fund, and/or linking with investors. In this regard it is important for universities to forge close relationships with financial institutions as potential source of financing for the students, staff and university-wide entrepreneurial activities.

On facilities:

- The university should establish and/or strengthen the existing initiatives of Entrepreneurship Development Centers to provide meaningful business development support to the university community.

5. Cooperation with external stakeholders

On level and structure of cooperation:

- A sense of team sprit among university management and external stakeholders should be created.
- Within the universities a pro-active attitude in dealing and engaging with external stakeholders should be enhanced. The university should give support to creative ideas by the community.
- The university at all levels should value and acknowledge the importance of the private sector to work together, among which in supporting students with meaningful and practice oriented entrepreneurship education (internship, inviting skilled manpower from the industry) that can help them set up their enterprises after graduation.
- The universities should engage more in formal and organized cooperation with private sector.
- Cooperation with the local business community should be stimulated more. Concretely, the university could: i) provide training, mentorship and other business development for micro, small and medium enterprises; ii) support micro and small business enterprises by making accessible the market potential of the university to the local businesses; iii) provide job opportunities for the community; iv) provide research support with the intention to identify business opportunities for local entrepreneurs; v) provide entrepreneurial, managerial and

technical training for the local business community; vi) make university laboratories accessible for external stakeholders; and vii) provide special support for women entrepreneurs by providing scholarships and short term training in management, leadership, and entrepreneurship.

On recognition of external stakeholders:

- An institutional approach for involving external stakeholders in education and research should be designed, like guest lecturers to facilitate the teaching learning process, and membership of the university board.

On enterprising:

- Universities should seek ways to enter into partnerships with external companies aimed at jointly undertaking business as part of their income generating strategy.

On internships:

- Universities should make an assessment of their internship programs and implementation to improve the current practice.
- The universities should seek ways to increase opportunities of students of experiencing business during their study.

6. Internationalization

- Universities should reinforce the practice of the implementation of the internationalization strategies by creating international networks, and international staff and student mobility.

7. Impact measurement

- The universities should develop a structured system for impact measurement for collecting data on the results of their entrepreneurial activities.
- Every university should involve in systematically tracing the position of its graduates.
- Each university should develop alumni centres that can engage in continuous tracer studies.

8. Recommendations beyond university level

- It is recommended that the government initiates a national entrepreneurship policy including implementation mechanisms that are conducive for doing business in Ethiopia.
- The Proclamation provides an adequate framework for autonomy in the universities. However, it needs to be further operationalized by rules, regulations and directives that guide actions in support of entrepreneurial activities at different levels of the university.
- It is important for the government to sensitize its key government actors such as the Ministry of Finance and Development, Ministry of Education, Ministry of Science and Technology, National Auditor, and Parliament to the importance of entrepreneurship development and the role of HEI in the country's ongoing development, and to extend their support to it.
- It is recommended that ESC convenes an annual national forum on entrepreneurship in Higher Education to exchange experiences and best practices.
- It is recommended to cascade entrepreneurship education down to secondary and primary schools.

Introduction

This report presents the findings of an entrepreneurship assessment of universities in Ethiopia. The important role higher education plays in promoting entrepreneurial attitudes and behaviors is now widely recognized. As the world becomes globalized, enterprises have to be innovative in order to survive and emerge winners in the highly competitive business environment. However, realizing the foregoing situation would require deliberate policy support as well the development of the right mix of human resources that could help meet the challenges of globalization.

Among the institutions required to play a significant role in the production of human resources of the level of caliber and quality the business world demands are higher education institutions. The higher education system must provide the requisite research, knowledge and a highly skilled workforce if the nation is to compete in the global arena which is highly dynamic (Cloete & Bunting, 2000).

Equally, higher education institutions have an important role to play in regional innovation systems. Available literature suggests that education including entrepreneurship is critical as it contributes to job creation and leads to considerable reduction of poverty (Abubakar , 2010). Entrepreneurship is a rapidly developing area of study and is clearly assuming greater prominence in the global business arena. Governments have been pursuing policies aimed at promoting small and medium business enterprises which they consider as breeding grounds for entrepreneurs. Some higher education institutions have been pushing the concept of entrepreneurial universities. Hence, interest in entrepreneurship has been steadily growing.

Ethiopia is at the start of its second five year Growth and Transformation Plan (GTP) which aspires to make Ethiopia a middle income county by 2025. As a result, it had been pursuing, as one of its strategies, measures to promote SMEs to spur the economies' growth and transformation. A growing economy is considered necessary to promote employability of the youth which constitutes a larger percentage of its population: 64.1% of the population is below 25 years of age with a net population growth of 2.89% (CIA, 2014). Despite the firm economic growth (7% in 2013, 8.5 in 2012 (CIA, 2014)), Ethiopia is facing high unemployment among its young population.

Recent developments in the higher education sector, as is the case in Ethiopia, require a strategy that would ensure employment of their fast growing number of graduates. Some twenty years ago Ethiopia had only two universities with an enrolment around ten thousand. Today Ethiopia boasts of having established 31 universities, which currently are at different levels of growth, and the foundation of another 11 universities has been announced in 2015. But once they become fully operational, some 500,000 students are expected to be enrolled. This dramatic expansion in enrollment has substantially improved access to higher education. However, it still falls short of the African average enrollment rate at HEIs.

Against this background, the government of Ethiopia has made it clear that its responsibility is to improve access to higher education institutions but has no capacity to absorb the graduates: "the university degree is no longer a voucher for life-long employability but merely an entry ticket into the world of work". It expects the graduates to fend for themselves by creating employment. It is this pertinent challenge of capacitating the growing number of students put upon the Ethiopian universities and academic community in which this study on 'Entrepreneurship Education in Ethiopian Universities' is framed. The case for this study rests fundamentally on the recognition that the Ethiopian government has accorded to the central role that entrepreneurship could play in

accelerating its economic growth and its quest and drive for international competitiveness and the expectation that the Higher Education sector should play an important role in shaping institutional development and culture change. The Education Strategy Center's (ESC) request for this assessment is a reflection of the forgoing concern.

This assessment is carried out within the capacity building program 'University Leadership and Management Capacity Development Project' for senior staff and faculty of 13 public universities in Ethiopia[1], funded by EP-Nuffic, with the project reference NICHE-ETH-015. The University Leadership and Management Capacity Development Project (ULMCD) is a multi-year program geared towards strengthening of the higher education sector in Ethiopia, in the broader framework of economic and societal development policies to meet the quantitative and qualitative demand for a trained labor force.

Through the Education Strategy Centre in Addis Ababa, 13 universities (most of them founded in 2006/2007) have been provided with training by an international consortium of Maastricht School of Management (MSM, Lead Partner), International Centre for development oriented Research in Agriculture (ICRA), and the European Foundation for Management Development (EFMD). The desired outcome of the project is the institutionalization of knowledge and resources on leadership and management within the Ethiopian higher education sector. In addition, the project supports the Ethiopian Ministry of Education/Education Strategy Centre in policy development for the Higher Education in Ethiopia as a whole. Therefore, project activities are framed within the overall Ethiopian context and made relevant for a wider group of higher education institutes whenever possible and appropriate.

In 2012, an executive training on entrepreneurship has been given to university staff with the purpose to update and prepare senior administrators in new Ethiopian universities on current trends and innovations in Higher Education with a focus on entrepreneurship, business Incubation, and income generation. This resulted in the request of the university presidents for this study. In 2015, another training has been given on entrepreneurship. This time it was a training if trainers on entrepreneurship awareness, a training program that immediately has been rolled-out all over the country at several universities reaching a few thousands of graduates.

This report is structured as follows. The first chapter presents a literature review on entrepreneurship, entrepreneurship education, and entrepreneurial universities clarifying the width of the concepts used. Chapter two presents the most important contextual information in which the Ethiopian universities operate in respect to entrepreneurship development. What are the prevailing national policies and regulations and what are key institutions involved? Next, in chapter three, the research methodology and implementation process of this study is explains in which a mix of data collection approaches have been used in a sample of nine universities. In chapter four, the empirical findings are presented combining qualitative and quantitative data, and highlighting best practices in boxes. In chapter five and six, conclusions and recommendations are listed respectively, targeting both the universities as well as the national government. The report is concluded with two special chapters in which concrete proposals detailing some of the recommendations are presented. Chapter seven includes a proposal for a renewed entrepreneurship development program for undergraduate students, whilst chapter eight presents an outline for how a university Entrepreneurship Development/Incubation Center could look like.

[1] *The universities in the project are: Ambo, Aksum, Debrebirhan, Debremarkos, Dilla, Dire Dawa, Jigjiga, Meda Wallebu, Mezan-Tepi, Samara, Wolaita-Sodo, Wollega and Wollo*

1. Entrepreneurship in Higher Education

1.1 Entrepreneur and entrepreneurship

In this study, a broad definition of entrepreneurship is used beyond the traditional association with business solely. It also encompasses 'intrapreneurship' which simply can be defined as 'entrepreneurship within an organization' (Menzel, 2008). For this study, entrepreneurship is defined as the tendency to create value through identification and exploitation of opportunities. This includes starting and managing one's own business (Morar, 2013). Thus, entrepreneurship should not be confused with 'being business-like'.

This definition also includes the so-called 'technopreneur', a concept used mainly in South and South-East Asia. A technopreneur is defined as a person who sets up a technology-based business that is generally marked with high growth potential and high leverage of knowledge and intellectual property (Oxford University Press, 2014; University of Kuala Lumpur, 2014). According to Pratomo (2010) there is a significant difference between an entrepreneur and a technopreneur, with the latter having an advantage on the mastery of technology besides possessing good business skills and mind-set. This concept of technopreneur reflects the close relation between entrepreneurship and innovation, in particular true for the modern global economy in which all sectors are technology driven. This poses an innovation challenge on developing countries (Naudé, Szirmai, & Goedhuys, 2011).

Form a different nature, but also included in our broad definition, is the concept of social entrepreneurship which emerged in the academic world in the late 1990s in the USA. A multitude of definitions exists in which in most cases social entrepreneurship refers to, on the one hand, a social mission and, on the other hand, commercial activities (Bacq & Janssen, 2011). Based on a review of definitions, Bacq and Jansen define social entrepreneurship as 'the process of identifying, evaluating and exploiting opportunities aiming at social value creation by means of commercial, market-based activities and of the use of a wide range of resources'. In the context of developing countries with a magnitude of social challenges, this concept is highly relevant. Rather than leaving societal needs to the government or business sectors, social entrepreneurs find what is not working and come forward with a solution, persuading entire societies to start act differently.

Another aspect of entrepreneurship is the gender element. Relevant for this study is to understand whether there is a difference between female and male entrepreneurs for the university to be sensitive of these potential differences in the education of and support to its graduates and staff. Minniti and Naudé (2010) explain that due to the rapid increase in the number and proportion of female entrepreneurs in developing countries as well as due to the general increase in interest for the role of entrepreneurship in economic development, female entrepreneurship nowadays receives much attention as a way to empower women as well as a means towards poverty alleviation. Literature reveals that characteristics between female and male entrepreneurs are more similar than they are different (Minniti & Naudé, 2010; Sexton & Bowman-Upton, 1990). However, female entrepreneurs have to deal with significant discrimination: discrimination in labour, education and financial markets are particularly constraining. Women's lack of confidence has been found in many studies to be one of the most significant differences between latent male and female entrepreneurs. Already in 1997, Marlow argued that being female will affect the experience of self–employment from initiation of the business, to development of the enterprise through to the manner of daily management challenges due to the 'patriarchal pressures that underlie their subordination in

society'. Thus, when dealing with capacitating people for entrepreneurship, it is important to address the institutional and contextual factors that impede on female self-employment.

The most eminent enterprising skills and attributes referred to by Coyle *et al.* (2013) are intuitive decision making, capacity to make things happen autonomously, networking, initiative taking, opportunity identification, creative problem solving, strategic thinking, and self-efficacy. Morar (2013) stresses in addition the importance of being proactive, innovative, future, and achievement oriented, able to operate independently, willing to take reasonable risks and perseverance. Coyle *et al.* (2013) are explaining the entrepreneurial mind-set as 'the ability of an individual to cope with an unpredictable external environment and the associated entrepreneurial ways of doing, thinking, feeling, communicating, organizing and learning.'

1.2 Entrepreneurship, economic development and entrepreneurship education

There is wide agreement on the importance of highly-knowledgeable, experienced and skilled entrepreneurs for innovation, employment creation and economic growth, thus linking entrepreneurship development directly with regional and national economic development and industry policies (Naudé, 2013; Röpke, 1998). Entrepreneurship is often associated with stimulating economic growth, innovation and job and venture creations. Empirical research also supports positive links between entrepreneurial activity and economic outcomes (Praag & Versloot, 2007) and fostering entrepreneurship has become a topic of highest priority in public policy (Luthje & Franke, 2003). Thus, over a relatively short period of time, entrepreneurship education has nudged itself to the top of socio-economic and political agendas, where it currently represents a high priority imperative for government policy throughout the industrially developed and developing world (Mitra & Matlay, 2004).

As indicated in the introduction, many developing countries face the challenge of creating employment for their predominant young population. In particular in Africa, the need is high to create employment with a three percent annual growth in labor supply, or in absolute numbers, the expected 170 million new labor market entrants between 2010 and 2020 (Nagler & Naudé, 2014). For example in Ghana, around fifty percent of the graduates were still unemployed after two years being graduated, in South Africa around one third of the labor force being unemployed, and in Nigeria even up to 80% of the graduates had difficulty in finding a job (Owusu-Ansah & Poku, 2012). In this context, entrepreneurship development receives a lot of attention because 'higher level of entrepreneurship and more effective innovation are perceived to be the key engines of economic growth (Dugassa, 2012). Thus stimulating entrepreneurship is seen as instrument for poverty alleviation. It is widely acknowledged that entrepreneurship is an important ingredient in both individual and national development processes. Entrepreneurial individuals create value for both themselves and the organizations that they have created or are employed in. There is significant agreement that under-employment is closely associated with low levels of entrepreneurship (IPB, 2012).

The focus on entrepreneurship development fits within the current mainstream discourse in development policy advocated by the international donor community. The line of thinking underlying the donor support to developing countries is that economic development prevails which needs trade instead of aid, private sector development and a more prominent role for businesses. In addition, the entrepreneurship focus aligns with the neoliberalism school of thinking that is based on individual responsibilities: entrepreneurship programs are mostly about capacitating citizens to act by themselves, away from donor supported government-led programs.

This study is not about researching the validity of the policy and developmental views behind the call for entrepreneurship development, which is according to some even 'a hype'. It is though important to understand that the majority of citizens in the world, hence also in developing countries, are and never will be an entrepreneur, nor have the ambition to become one. Entrepreneurship development is one of the instruments in pushing up the living standards in developing countries, and as such worthwhile pursuing and studying.

In general, literature and practice are based on the assumed lack of entrepreneurs in developing countries. However, there is evidence of the opposite in the research on the informal sector. In Africa, entrepreneurship is mainly related to the wide-spread informal sector with micro and small enterprises. Many factors influence the success of these enterprises, whether related to the individual entrepreneur or to the context in which they operate. To mention are access to information, networks, location, next to personality variables (Dijk, 2005).

Higher education institutions in developing countries are and have been stimulating entrepreneurship development by offering entrepreneurship education. As noted by Matlay (2006), entrepreneurship education is believed to have invariable result in a comparable growth in the quantity and quality of entrepreneurial activity. Furthermore, several other research undertakings have stressed the role that entrepreneurship education plays in shaping the entrepreneurial attitude of students. For instance, Dugassa (2012) indicates that entrepreneurship education improves motivation towards being entrepreneurial by inspiring students' personal attraction towards entrepreneurship and perceived behavioral control and also indicates that students who had undergone through entrepreneurship education tend to have better entrepreneurial intention than those who had not taken entrepreneurship course.

Premand *et al* (2012) claim that entrepreneurship training' participants were on average 46 to 87 per cent more likely to be self-employed compared with non-participants. At the same time undergoing through entrepreneurial education will improve others' attitude (such as the attitude of close friends and families) towards students in seeking entrepreneurship as career option (Pruett et al., 2009; Wilson et al., 2007) increasing the level of support the students would garner from friends, family members, and even creditors. Entrepreneurship education therefore has the power of preparing students for an entrepreneurial career not only by creating positive entrepreneurial intentions in students and by equipping them the requisite competencies to become successful entrepreneurs, but also by improving the attitude of others towards the entrepreneurial prospective of students paving ways for students to obtain necessary supports from family, friends, and even creditors.

Entrepreneurship education has therefore become a critical policy tool in building the knowledge, skills, attitudes and behaviors required for entrepreneurship against the traditional education programs that prepare students for a conventional career This is based on the assumption that entrepreneurship skills can be learned (Kuratko D. F., 2005) (Matlay, 2006). Most importantly, Drucker (1985) stated that entrepreneurship is like management and technology, is an age long practice, who's vital importance to economic growth and development has been explicitly exposed through studies, and brought to the realm of theory and practice. The question of whether entrepreneurial skills and competencies can be learned is therefore no more a debate. There is now a consensus, in the literature at least, that entrepreneurship can be taught and the debate has now shifted to what and how it should be taught (Lourenco & Jones, 2006). What remains the point of discussions in literature is what and how to teach in entrepreneurship.

1.3 Objectives and pedagogical aspects of entrepreneurship education

Entrepreneurial education is populated by a variety of programs designed to reach a range of different populations, and their goals vary just as widely. The variation not only is limited to the contents of the course but also extend to the course title used. The situation is further complicated by most programs being delivered in mixed educational and cultural frameworks. Some courses emphasize socio-emotional skills that include leadership, psychology of planning, personal initiative, persuasion and negotiation, while others concentrate purely on development of business acumen and mind-sets.

According to Solomon (2007) for instance, the most popular courses in the United States undergraduate program's curriculum are Entrepreneurship followed by Small Business Management and New Venture Creation. Kabongo and Okpara (2010) on the other hand identified the major entrepreneurship course offered in Sub-Saharan African universities as Introduction to Entrepreneurship/Small Business Management, Entrepreneurial Finance; Entrepreneurial Growth/Feasibility Analysis/Creativity and Innovation; Business Plan and Entrepreneurship Field Project; Product Development; Internships and Corporate Entrepreneurship; Entrepreneurial Marketing; and Technology Transfer, respectively. These variations in entrepreneurship course may be derived from the objectives to be realized in the course.

Blenker *et al* (2011) noted that such objectives of entrepreneurship education should affix on two key definitive course of action, which is teaching "about entrepreneurship" or "for entrepreneurship". While education for entrepreneurship focuses on the learning experiences and the development of competences, skills, aptitudes and values; education about entrepreneurship is mainly based on the construct and transference of knowledge about the field. In other words, education about entrepreneurship aims at developing, constructing and studying the theories referred to the entrepreneurs, the firm creation, the contribution of entrepreneurship to economic development, the entrepreneurial process and the small and middle sized firms while education for entrepreneurship has the objective of developing and stimulating the potential entrepreneurs. Research (for instance, Kirby, 2004) suggests that the emphasis needs to shift from educating about entrepreneurship to educating for it.

Whilst entrepreneurship education started in the past as a special program for a few students, it is now 'almost an intra-disciplinary concept intrinsic to the development of all students and university teaching staff' (Gibb *et al.*, 2012). A recent World Bank report has identified entrepreneurship education and training as a catalyst that stimulate innovation and generate jobs among university graduates, especially in Sub-Saharan Africa where graduate unemployment rates are high (Robb, Valerio, & Brent, 2014). The report summarizes the key themes and findings from three in-depth case studies of entrepreneurship education and training programs in Ghana, Kenya, and Mozambique. One of the conclusions is about the difference between public and private universities: whilst a private institute in Accra, Ghana, offers a full degree program and a postgraduate diploma in entrepreneurship, in public universities entrepreneurship education tends to come in the form of a one-semester course for undergraduates. This is also the conclusion of a survey on entrepreneurship education in public universities in Ethiopia (Dugassa, 2012). A counter example is the University of Dar Es Salaam, the oldest and biggest public university in Tanzania, in which entrepreneurship courses are integrated in all curricula, for each discipline. At the same university, already in 1999, the Dar es Salaam Entrepreneurship Centre (UDEC) was established with the mission to facilitate the development of entrepreneurial capacity in Tanzania. In other countries, entrepreneurship education started much later. The Arab World, and especially North-Africa, has been late in joining the entrepreneurial movement in higher education (Adly, 2014).

Another relevant aspect of entrepreneurship education is the way of teaching. Varying pedagogical approaches are enacted based on the objective of entrepreneurship education. Gafar *et al* (2013)

stressed that entrepreneurship pedagogy can either be a declarative or function, and it could be discovery or creation in nature calling for discovery method as the most effective in imparting competencies that students need. According to them, entrepreneurship education must inspire skill ingenuity, creativity and innovation, risk taking proficiency in an action-based learning culture. Other researchers have also emphasized that the interaction with entrepreneurs, either as guest speakers or through interviews, as well as business plan preparation and self-employment plans, provided good preview of entrepreneurship.

Röpke (1998) makes reference to the fact that in many situations, universities are concentrating mainly on knowledge creation, but fail to give attention to creation of competencies and awareness among students for learning new capabilities. As a result graduates can be highly qualified, but incompetent. This brings him to the statement that "In a knowledge-based economy, a science/university system which is based on the ethics, culture, regulations and career paths adapted to a constellation, can become a competence block for the further development of the economy" (p.8). In particular in many developing countries, text book based classes prevail which as such do not stimulate entrepreneurial behavior of the students. Little tradition and capabilities among teachers exist in more interactive teaching methods that help build students' skills and entrepreneurial attitude. This is relevant for the full educational pillar, from primary education up to universities.

For entrepreneurship education to bring the desired impact on the behavior and attitude of students, academia need to have a better understanding of business. This also implies that entrepreneurship cannot be taught effectively using the same method used in teaching management and business courses. Consistently, Sherman *et al* (2008) emphasized the uniqueness of entrepreneurship courses which intuitively would seem to require more hands-on work. As a result mainstream management or business lecturers may not appropriately provide entrepreneurships education unless they are equipped with how to teach the course in more effective ways. The training of teachers is therefore a critical element of the development of effective enterprise education initiatives (Hytti & O'Gorman, 2004).

The developments as described above have led to the opening of entrepreneurial promotion and incubation centers in many universities across the globe. These centers have a key role in providing practical support for graduates and in promoting an entrepreneurial culture by providing new enterprise development. An entrepreneurship center provides services aimed at developing and enhancing entrepreneurial activities among the university community and promoting external outreach activities (Kabongo & Okpara, 2010). They also play the key role in bridging the gap between universities and the communities.

1.4 Entrepreneurship education in Ethiopia

The landscape of entrepreneurship education in Ethiopian universities is poorly known due to dearth of research in the area. Accordingly, little is known about what and how is taught in entrepreneurship course in the universities. However, few research outputs (such as Dugassa, 2012) indicate that the main objective of entrepreneurship education in Ethiopian public universities is just to acquaint students with the fundamentals of the course with major focus of discussions including nature and historical development of entrepreneurship; background and characteristics of entrepreneurs; business plan development; economic contributions of entrepreneurship; legal forms of businesses; and small business management principles. The effectiveness of entrepreneurship education with such objectives and focus is not expected to produce graduates with good entrepreneurial orientations.

With regards to the teaching methods Dugassa (2012) indicates that class lecture by instructors followed by reading assignment and business plan preparation assignment/project are the commonly used teaching methods. Guest speakers who are prominent entrepreneurs and visit to prominent entrepreneurs' work places are rarely used methods in Ethiopian universities. Besides, instructors do not often use case studies as a means of teaching entrepreneurship. Traditional methods based on examination and business plan preparation project/assignment are the commonly used evaluation and assessment methods used in most of the Ethiopian public universities for entrepreneurship courses. A study conducted by Kannan (2012) on the status of entrepreneurship education in Ethiopian higher education institutions up hold the findings of Dugassa (2012). The study revealed that all the professors and 88 percent of the students believed that entrepreneurship courses delivered at that time in higher education institutions lack practical content, interactive classrooms or experiential learning.

According to Dugassa (2012), entrepreneurship educators in Ethiopian universities do not seem suitably qualified and experienced. The majority of the teachers are in their early professional career with only first degree education or second degree education with very limited teaching as well as entrepreneurial exposures. At the same time, the majority of them are generalists with little or no special training on how to teach entrepreneurship. Kannan (2012) indicates that most professors have not been trained in entrepreneurship – by and large they come from departments like business management and economics.

Concerning centers for entrepreneurship development, Ethiopian universities faced critical issues in 2012. At that time they were either inexistent at all or ineffective in supporting students and staff entrepreneurial agenda. Centers were found only in two universities among 16 universities considered for the study revealing the fact that the Ethiopian universities were in 2012 far behind in producing entrepreneurship oriented graduates given the critical roles played by such centers. The dearth of entrepreneurship promotion centers is in fact the characteristics of Sub-Saharan universities. Kabongo and Okpara (2010) found out that of 58 higher education institutions in Sub-Saharan universities, only four (or seven percent) had a center dedicated to entrepreneurial development, small business support, and microfinance research.

1.5 The entrepreneurial university

Making students more entrepreneurial – defined in the broad sense as explained above – requires an entrepreneurial university (Fayolle & Redford, 2014) (Röpke, 1998) (IPB, 2012) (Kirby, 2006). This notion is widely supported, already explained in 1998 by Röpke. He stated that "an entrepreneurial university can mean three things: 1. The university itself, as an organization, becomes entrepreneurial; 2. The members of the university – faculty, students, employees – are turning themselves somehow into entrepreneurs; and 3. The interaction of the university with the environment, the 'structural coupling' between university and region, follows entrepreneurial patterns. To achieve the second, the first must be accomplished." Kirby (2006) is focusing more on the cultural entrepreneurial aspects of the institute in combination with the individual mind-set and skills as a precondition for entrepreneurial behavior. He states that for an individual to act entrepreneurial, there needs to be a setting with a favorable attitude towards entrepreneurship, the belief that he or she is able to act entrepreneurial, and the belief it is intrinsically rewarding. IPB (2012), the Bogor Agricultural University in Indonesia, likewise point to the importance of both the individual and institution to be entrepreneurial for success in any endeavor, including self-employment. This interrelation between the students, staff and institution is pictured in figure 1. Also the context impacting on the operations within the higher education institution, like access to finance and ease of doing business is illustrated.

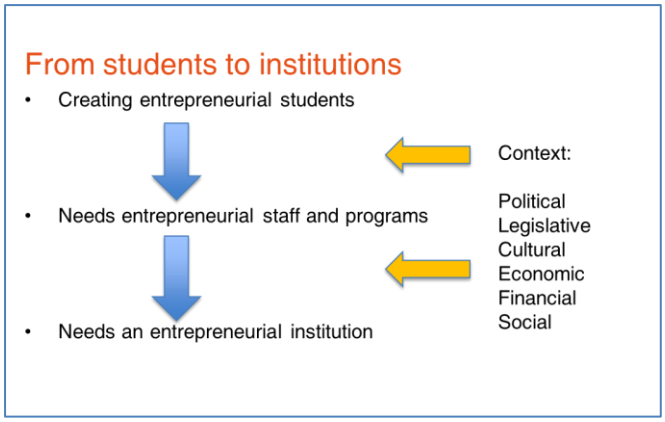

Figure 1. The Entrepreneurial University: from students to institutions

Entrepreneurial university is defined by several scholars differently, and attempts to define the concept in literature have not reached consensus (European Commission & OECD, 2012). For this study, the definition of Gibb (Gibb & Haskins, 2014, forthcoming) will be used:

"Entrepreneurial higher education institutions are designed to empower staff and students to demonstrate enterprise, innovation and creativity in research, teaching and pursuit and use of knowledge across boundaries. They contribute effectively to the enhancement of learning in a societal environment characterized by high levels of uncertainty and complexity and they are dedicated to creating public value via a process of open engagement, mutual learning, discovery and exchange with all stakeholders in society - local, national and international."

The entrepreneurial university is not geared towards stimulating individual entrepreneurship as such, neither associated with business and commercialization of knowledge, but towards achieving the strategic goals of the university (Gibb *et al.,* 2009; Coyle *et al.,* 2013). These could be as diverse as: higher innovation, research excellence, research relevance, competitiveness, diverse revenue flow, student employability, teaching quality, learning organization, and stakeholder orientation. It remains however an important feature of an entrepreneurial university (Aranha and Garcia, 2014, Coyle *et al*., 2013, Clark, 2004) that the organization is designed to encourage and support individual entrepreneurial behavior and bottom-up initiative.

The impact of the entrepreneurial university on entrepreneurship development is not subject of this study but the positive correlation between an entrepreneurial university, entrepreneurship education, and entrepreneurship development is an important assumption underlying the focus on what is needed to be an entrepreneurial university.

1.6 Entrepreneurial University assessment framework

Different frameworks exist for the entrepreneurial university, in particular from Clark (1998, 2004), Etzkowitz (2004), Kirby (2006) and Rothaermel (2007). In 2013, the OECD Local Economic and Employment Development Programme (LEED) together with the European Commission's Directorate General for Education and Culture launched an online self-assessment tool for European Entrepreneurial Higher Education Institutions named HEInnovate (European Commission, OECD, 2013/2014). In seven categories that are likely to be characteristic for an entrepreneurial university, an institute can assess how entrepreneurial it is. Also in 2013, the National Centre for Entrepreneurship in Education in Coventry, United Kingdom (NCEE) published the University Entrepreneurial Scorecard (Coyle *et al*., 2013). This scorecard is operationalized in around hundred qualitative statements divided over six categories and is meant to explore the entrepreneurial capacity of a university. These categories are: i) Concept, vision, mission and strategy; ii)

Governance; iii) Organizational design; iv) Public value and Stakeholder engagement; v) Knowledge exchange and Incubation; and vi) Internationalization.

This study is based on the European Commission/OECD self-assessment tool with additions of the NCEE scorecard. The choice for the European Commission/OECD tool is justified because of its comprehensiveness and because it is the result of a cumulative knowledge body and currently strongly promoted through a set of workshops for university leaders. The seven categories of this framework are:

1. Leadership and Governance: important factors a higher education institution may consider in order to strengthen its entrepreneurial agenda: i) university strategy: does the university have a working mission statement with an entrepreneurial vision for the future of the institution, operationalized with specific objectives and indictors; ii) high-level commitment: who is made responsible for the entrepreneurial agenda (if any) and to what extent is entrepreneurship understood as a priority by staff and students; iii) internal coordination and integration: is an entrepreneurship structure in place which co-ordinates activities within the institution and with other stakeholders; iv) level of autonomy: is the organizational culture and structure conducive to entrepreneurship, idea creation and swift decision making; v) support to regional community development: is the university an active player, driving community development, linked to the external environment by having a strong presence in the community?

2. Organizational capacity, people and incentives: key areas a higher education institution may look at if it wishes to minimize the organizational constraints to fulfilling its entrepreneurial agenda. This includes the financial strategy, attracting and retaining the right people and incentivizing entrepreneurial behavior in individuals.

3. Entrepreneurship Development in Teaching and Learning: factors related to the organizational structure to support entrepreneurial development as well as tools to deliver education and training opportunities: are academic structures and positions in place on entrepreneurship, including student initiatives, which programs are offered to whom, by whom and in what manner, and is research on entrepreneurship taking place.

4. Pathways for Entrepreneurs: concerning providing access to internal and external opportunities and expertise to support "intrapraneurs" in their career development or enterprising individuals on their pathway to becoming an entrepreneur. The factors related to this category are awareness raising of the value/importance of developing entrepreneurial abilities amongst staff and students, business development support, access to finance, and facilities.

5. Higher Education Institution – Business / External relationships for Knowledge Exchange: areas related to relationships with key partners and collaborators for achieving the full potential of a higher education institution, in entrepreneurship, in research, teaching and in other third mission activities: the level and structure of cooperation, the level of recognition of external stakeholders in education and research, existence of joint business undertakings, and internships.

6. The entrepreneurial higher education institution as an internationalized institution: factors influencing the international environment on the entrepreneurial aspects of teaching, research, talent development, new opportunities and culture: strategic embedment, international student- and staff mobility, and participation in international networks.

7. Measuring the impact: areas where an institution might want to measure impact.

2. Entrepreneurship development in Ethiopia: national policy context

In this chapter, national policies and strategies that underpin the development of entrepreneurship in the country are presented, with a focus on the Growth and Transformation Plan and the national micro and small enterprise development policy. In addition, the Higher Education Proclamation is looked into and a brief profile is given of relevant institutions.

2.1 National development and entrepreneurship policies

Growth and Transformation Plan (GTP) 1 and 2

The country's Growth and Transformation Plan (GTP) which covers the period 2010/11 - 2014/15 sought to capitalize on the positive growth outcomes attained in the last decade by bringing about broad-based and transformative structural changes required to navigate the economy toward becoming a middle income country by 2025. This goal is especially anchored on stimulating the rapid growth of micro and small enterprises (MSEs) in ways that enhance wealth creation and expansion of employment opportunities. The development of micro and small enterprises is a key component of Ethiopia's industrial policy direction. Consistent with this, the GTP emphasized the need to provide comprehensive supports to MSEs so as to unleash their potential to create wealth and jobs and thereby help to substantially reduce poverty. Specific elements of how the GTP envisaged this occurring comprise:

- Accelerated training of 10,000 trainers who in turn will provide capacity building on entrepreneurship;
- Provision of technical and vocational skills to support MSE development and growth of about 3 million entrepreneurs by the end of the GTP period;
- Provision of 15,000 hectares of land for different small and medium enterprise (SME) development projects;
- Incorporation of the development of working premises and production facilities and the encouragement and provision of credit and marketing support in an effort to dismantle constraints that inhibit growth of MSEs into medium and large scale competitive enterprises.

These conditions were meant to enable industry to play a key role in the economy and promote the establishment and growth of export-oriented and import-substituting industries in Ethiopia. To achieve these ambitious goals, the plan on industrial development emphasizes the need to create a broad-based spring-board for competitive domestic industrial and private sector development and to expand micro and small enterprises in urban areas for large scale creation of employment opportunities. It is expected that the private sector plays a critical role in the development of the medium and large scale manufacturing industry.

The second Five Year Growth and Transformation Plan (GTP 2) of the country that covers the period 2015/16 – 2019/20 which is yet to be approved, wishes to consolidate the improvement in the micro and small enterprises development in the country. It aspires to use enterprise development as catalyst for further improvement in the industrial development. By continuing to provide comprehensive support for the development of micro and small emprises in the coming five years, the Ethiopian government has eyed to create employment opportunities for nearly 8.5 million people.

National initiatives on MSME and entrepreneurship development

Recognizing the role of micro and small enterprise (MSE) on the socio-economic development of the country and giving due attention to the sector, a national MSE strategy and policy was formulated in 2011 and has been implemented the past years. According to the strategy, MSEs are given credit in the country's industry development plan and serve as vehicles for urban employment opportunities. MSEs are given priority as they are perceived important vehicles for production and growth in the manufacturing sector.

The strategy acknowledges that understanding the strategic value and giving due attention to the development of MSEs is just a beginning. In the process of developing MSEs, the strategy sought to identify their core problems and to design solutions accordingly. The following are some of the challenges and problems of MSEs in Ethiopia as formulated in the national strategy:

- MSEs perceive themselves as reflection of poverty and backwardness
- People are waiting for the government to offer a job rather than being innovative
- Failure in developing a culture of saving and living with one's income
- Failure in improving productivity and being competent in marketing
- Poor attitude towards enterprise development
- Lack of access to sufficient seed money or finance
- Lack of commitment towards changing backward technologies
- Lack of access to markets for their products and services
- Failure in producing according to market requirements and demands in terms of quality and price
- Unable to solve ones problem by oneself and absence of a strong support system that can help MSEs' efforts in solving their problems.

Furthermore, the strategy articulates the following objectives of the country's MSE development:

- Bringing equal development, improving income, and reduce poverty through creating of job opportunities;
- Facilitating economic growth and laying the foundation for industry development through enabling a competent sector;
- Expanding the sector's development in urban areas by creating developmental investors.

Given the above challenges and problems, the strategy specified several directions among which the creation of job opportunities to graduates from universities and technical and vocational institutions, developing youth's skills, perceptions, and innovation capabilities, as well as improving their saving culture. The Prime Minister upon the launching of entrepreneurship development program of the country back in February 2013 has said "without the development of entrepreneurial skills by hundreds of thousands of our youth, the kind of equitable distribution of wealth that the government is very keen on achieving cannot be realized and the country's industrial development will be stunted without the required entrepreneurship skills and enterprise." Habtamu (2015) also claims that only 19% of Ethiopian entrepreneurs believe that they have the right skills to start new firms. To fill these skill gaps in entrepreneurship, the country looks at its universities and technical and vocational institutions to graduate students with well-equipped skills and competencies that can help them establish their own business. According to the entrepreneurship development strategy, the technical and vocational institutions are entrusted to ensuring the human resources development and technological growth of micro and small enterprises.

Measuring the results of the entrepreneurship development strategies and activities during the GTP1 period was beyond the scope of this study, but it is relevant to have a basic understanding of the entrepreneurship landscape in Ethiopia. This can be obtained from international statistics like the Doing Business Index indicating the ease of doing business in a country. Despite all the efforts undertaken in the GTP1 period, Ethiopia is ranked in 2015 168 out of 189 countries (see table 4). Another indicator is the Global Entrepreneurship Monitor (GEM), a worldwide analysis of entrepreneurial attitudes, activities and growth expectations based on annual country surveys of a nationally representative sample of the adult population in the 18 to 64 age range. The most recent report on Ethiopia is from 2012 in which is stated "Ethiopia has one of the lowest rates of entrepreneurial activity in the sub-Saharan African region. In 2012, 12% of the adult population (18 to 64) were in the process of starting a new business or were running businesses which were 3.5 years old or less, compared to an average of 28% for countries in the region. Some 8% of adults were running established business enterprises; the regional average is 15%." Low level of education and limited access to finance are mentioned as critical underlying factors (Herrington & Kelley, 2012).

Table 1. Doing Business Index Ethiopia

TOPICS	DB 2015 Rank	DB 2014 Rank	Change in Rank
Starting a Business	168	165	↓ -3
Dealing with Construction Permits	28	30	↑ 2
Getting Electricity	82	81	↓ -1
Registering Property	104	102	↓ -2
Getting Credit	165	163	↓ -2
Protecting Minority Investors	154	143	↓ -11
Paying Taxes	112	109	↓ -3
Trading Across Borders	168	168	No change
Enforcing Contracts	50	51	↑ 1
Resolving Insolvency	74	73	↓

Source: http://www.doingbusiness.org/data/exploreeconomies/ethiopia/

2.2 Higher Education Proclamation

The government of Ethiopia has enacted a higher education proclamation, also called Proclamation number 650/2009, as the legal framework for the higher education institutions. The proclamation gives guidelines for these institutions for serving as dynamic centers of capacity building, ensuring good governance in the context of an expanding higher education system, and providing an appropriate balance of an institution's autonomy and its accountability to government and to public interests.

Autonomy of the Higher Education

According to the Proclamation, every public institution is granted the necessary autonomy in pursuit of its mission. While exercising autonomy, every public institution is expected to at the same time to ensure lawfulness, efficiency and effectiveness, transparency, fairness, and accountability.
Autonomy of public institutions includes to:

- Develop and implement relevant curricula and research programs; create new or close existing programs; set up its organizational structure and enact and implement its internal rules and procedures;
- Consistent with other provisions of the Proclamation, select, through a transparent system of competition, academic and other staff to be employed by the institution and designate or determine their responsibilities based on institutional requirements and expectations concerning performance and quality of work;
- Administer its personnel based on the provisions of the higher education Proclamation and the principles of other applicable laws;
- Nominate the President, Vice Presidents and members of the Board, and select and appoint leaders of academic units and departments;
- Manage its funds and property on the basis of all applicable laws and regulations.

Relation with industry

The Proclamation has outlined the responsibility of the higher education institutions to forge relationships and partnerships with industries. This is clearly indicted in Article 26 sub article 5 which state that "every institution shall have the responsibility to forge relations with industries for mutual benefits and on the basis of principled and transparent negotiations and agreements."

Higher Educations' income sources and - generation

According to the Proclamation, public institutions are funded by the federal government or states through a block grant system based on strategic plan agreements. At the same time, the institutions can mobilize income from other sources. This means, the institutions can generate their own income internally by setting up income generating enterprises.

According to the proclamation, an income generating enterprise may be established by any public institution upon the request of the President and approval by the Board. Such an enterprise ought to have its own legal entity and to operate, like any business organization, in compliance with all legal requirements. The initial capital required for the establishment of the enterprise may be a budget allocated by government. Furthermore, the enterprise may have the following sources of income:

- Income generated from services it renders and activities it carries out;
- Voluntary contributions made by staff of the institution;
- Donations;
- Other lawful sources.

The higher education institutions are allowed to use the net profits of their enterprises in the pursuit of their mission and objectives. The institutions are expected to submit the financial statements of enterprises to the university Board within six months from the end of the fiscal year.

On top this, the Proclamation allows the institutions to accept donations. Article 62 sub article 7 states that "any public institution may accept donations from third parties; provided however, that no such donation or subsidy may negatively influence the standing, mission and objectives of the institution".

Any public institution needs to report to the Ministry of Finance and Economic Development and the Ministry of Education or the appropriate state organ receipt of funds from third-parties and its investment incomes.

2.3 Entrepreneurship development institutions

Federal and Regional Micro and Small Enterprise Development Agencies
In recent years, attempts have been made by the Ethiopian government to introduce entrepreneurship in an organized manner. Among the major attempts is the establishment of federal and regional micro enterprise development agencies (FEMSEDA and REMSEDA) which have their structure extending to the next lower level of government administrative hierarchy, the district, to spearhead the development of micro, small and medium enterprises and in turn to effectively deal with unemployment of the teeming higher education graduates in particular.

The vision of FEMSEDA is to bring about a rapid and sustainable development of MSEs in Ethiopia and thereby to enable the subsector to attain a greater role in the creation of job opportunities and production of goods. Its mission is to create an enabling environment for micro and small Enterprises development provision of training of trainers, Business Development Service (BDS), consulting services on appropriate technology and marketing services to MSEs supporting institutions. Focus is on the priority sectors of the nations' development plan: textile garment; leather and leatherworks; bamboo; agro processing, and trade and services.

FEMSEDA is responsible for 11 regional agencies, the so-called REMSEDAs, capacitating them to support entrepreneurship development in the respective regions. On local level, there are around 1300 One-Stop Shops, the local Micro & Small Enterprises Development Offices. This can be on Woreda level or even on Kabela level. For more information see the FEMSEDA website: http://www.mse.org.et/Pages/default.aspx

Entrepreneurships Development Center
In February 2013, a national Entrepreneurships Development Center (EDC) has been established to spearhead the development of entrepreneurship activities in the country. The center was established to implement the country's Entrepreneurships Development Program (EDP), a program launched by the partnership between the Government of Ethiopia and United Nations Development Program (UNDP) Ethiopia Country Office. The center, on top of building the capacity of entrepreneurs by providing innovative entrepreneurship training programs and customized business development support, is entrusted to build the capacity of government institutions which are involved in entrepreneurship development endeavors. Consistent with this, the Center has been providing different types of training to entrepreneurship trainers selected from different public universities. There are three type of training that the Center has been providing: a six days entrepreneurships training workshop (ETW) which aims at bridging the entrepreneurial mindset of university lecturers using experiential learning methods, Training of Trainers (ToT), a six day long program that aims to equip participants with the methodology of experiential learning and participant centered facilitation skills; and business development service (BDS) training which aims to build the capacity of participants in providing mentorship and business counseling for others.

By May 2015, the Center has provided entrepreneurship training workshops to 306 university lecturers selected from 29 public universities. Addis Ababa University, Bahir Dar University, Mekelle University, Wollo University, and Hawassa University constitute the top five universities from which many lecturers have attended ETW organized by EDC constituting 10.13%, 10.13%, 7.52%, 7.19%, and 6.21%, of the total participants drawn from public universities.

In order to help them be equipped with innovative ways of teaching entrepreneurship education in their respective universities, 81 university lecturers have attended Training of Training sessions

organized by EDC. In the same fashion, the lecturers have been selected from several public universities the majority of whom are from Bahir Dar University, Mekelle University, Wollo University, Hawassa University, Dire Dawa University, Wollega University, Debre Markos University, and Wolaita Sodo University. Out of the trainers who have attended ToT, 38 have been certified as national entrepreneurships trainers by EDC to provide trainings organized by EDC throughout the country on top of providing training and education in their respective universities. Furthermore, out of 20 national trainers who have been certified in May 2015 as United Nations Conference on Trade and Development (UNCTAD) National Entrepreneurship Trainers in Ethiopia, 12 were from public universities. 120 lecturers were also provided with business development services advisory training.

EDC has also supported five public universities in setting up a Center of Excellence in Entrepreneurship (CoEEs) in 2014. These centers were established in Addis Ababa University (two CoEEs –in College of Business and Economics and in Addis Ababa Institute of Technology - AAiT); Bahir Dar University; Hawassa University; Adama university of Science and Technology, and Mekelle University. The centers are expected to provide full-fledged entrepreneurship development supports, including incubation services, for their students, staff, and the community. The CoEEs are at the early stage of development and hence have not started fully functioning.

3. Assessment methodology and process

3.1 Purpose and objectives

The purpose of this assessment of the Ethiopian universities is to advise the Ethiopian universities on how to strengthen their entrepreneurial policy, activities, facilities, and educational programs, and to advise the Ethiopian Ministry of Education/Education Strategy Centre (ESC) on how it could support the Ethiopian universities in strengthening their entrepreneurial policy, activities, facilities, and educational programs. More specifically the objectives are as follows:

1. On Entrepreneurial University, being the institutional setting for education, research and community outreach:

- Benchmark a '**best practice'** model of an Entrepreneurial University' and **extract** the key components that can be useful and appropriate to the needs of Ethiopian universities;
- Explore the entrepreneurial state of the various universities in Ethiopia;
- Gather information on existing good practice and provide concrete examples;
- Identify factors of success and main obstacles;
- Draw main conclusions and recommendations for policy action by the universities and the Ethiopian government/ESC.

2. On entrepreneurial education, the study specifically aims to:

- Explore the state of entrepreneurship education in the various universities in Ethiopia;
- Investigate the most common teaching methods currently in use, and identify best practice in delivering entrepreneurship education at this level; (In this regard, the study could look into the most appropriate concepts to be taught, **suggests** how they can be developed, **propose** how they can be staffed and the **incentive** mechanism that can be used to promote them and **suggest** how champions for such curricula could be mobilized);
- Explore in depth issues related to the teaching of entrepreneurship in different fields of study;
- Evaluate how entrepreneurship education could best contribute to new start-ups and to the exploitation of business ideas;
- Gather information on existing good practice and provide concrete examples;
- Identify factors of success and main obstacles;
- Draw main conclusions and recommendations for policy action by the universities and the Ethiopian government/ESC.

3. On Entrepreneurship Centers/Business incubation

- Drawing on best international experiences, **propose** how higher education institutions can spearhead the development of business incubations, **examine** whatever local practices are in place and **propose**, particularly, the role the emerging engineering and science universities and faculties could play in this regard.

It was agreed that this study should result in the following concrete outputs:

1. An overall assessment report with policy recommendations on how to strengthen Ethiopian universities' entrepreneurial policies, activities, facilities, and educational programs.

2. An assessment report of the selected universities researched in-depth
3. An outline for an Entrepreneurship Awareness Program for BSc students
4. A pilot implementation plan for an Incubator/Entrepreneurship Centre at one or more NPUs.

3.2 The framework

The assessment framework is designed to coordinate and align data collection in the research sample. The rationale was to have a detailed and focused assessment framework, clearly indicating what kind of information was to be collected at each of the universities. A consistent data collection for each university provided a sound basis for aggregating the data, and for a comprehensive analysis across the universities. For each university, an assessment report was prepared following a predefined format. The current report presents the overall analysis bringing the data and findings from the nine university reports together.

The framework for the entrepreneurship assessment is built on the premise that making students more entrepreneurial requires an entrepreneurial university. The framework consists of seven categories derived from the online self-assessment tool for European Entrepreneurial Higher Education Institutions as explained in chapter one:

1. Leadership and Governance
2. Organizational capacity, people and incentives
3. Entrepreneurship Development in Teaching and Learning
4. Pathways for Entrepreneurs
5. Higher Education Institution – Business / External relationships for Knowledge Exchange
6. The entrepreneurial higher education institution as an internationalized institution
7. Measuring the impact.

3.3 Research sample and university respondents

In Ethiopia, the public universities are grouped in four generations. First generation universities are 8, second generation are 13 (the New Public Universities, NPUs), and third generation are 10. At the time of study, the foundation of another 11 universities has been formally announced by the Ethiopian government. All these universities resort under the Ministry of Education.

A specific group of higher education institutions are the Institutes of Technology (IoTs), in most of the cases former Faculties/Colleges of Engineering. Adama Science and Technology Institute and Addis Ababa Institute of Technology resort under the Ministry of Science and Technology.

In addition, two special universities exist, i.e. the Civil Servants University (resorting under the Ministry of Civil Servants) and the Defense University (resorting under the Ministry of Defense).

Private higher education institutions exist in Ethiopia, but only three are considered as universities: Unity University, Saint Mary University and Century University. This makes the total population size is 36 universities.

In this study, a sample is taken from the first and second generation, not from the 3rd generation of public universities. This is done because a university needs to be operational at least 5 years in order for this study to be able to collect useful data. For comparison, the developments at private universities are also taken into account. The Civil Servants University and the Defense University are not taken into consideration given their specific profile.

The other criteria for sample selection are:

- Regional diversity, from the point of view that universities are to play a role in local and regional development with its own social, cultural and economic specifics.
- Potential for business development given regional industrial activities.
- Prior involvement in institutional assessments undertaken within the framework of the ULMCD project with the ambition to spread the involvement among the 13 NPUs.
- Resources and time available.

This resulted in a sample size of nine universities:

First generation universities:	3 (33% of total)
New Public Universities:	5 (38% of total)
Third generation universities:	0 (0% of total)
Private universities:	1 (33% of total)
Total sample size:	9 (26% of total)

Table 2. Composition of the research sample

1st Generation
Addis Ababa University
Adama University of Science and Technology
Jimma University
2nd Generation
Aksum University
Dire Dawa University
Mizan-Tepi University
Wollega University
Wollo University
Private Universities
Unity University

Per university, the study collected data from four categories of respondents. With university leadership in-depth interviews have been held on the strategy and organizational set-up of the university. With faculty, staff and students focus group discussions took place on the existence of entrepreneurial opportunities and culture, entrepreneurship education and on research. With a sample of external stakeholders (private and public sector) in-depth interviews or focus group discussions were held on the role of the university vis-à-vis local and regional development.

3.4 The study approach

The assessment has been carried out by a team of five consultants, per university supported by a staff member in order to facilitate data collection. The entrepreneurship expert from MSM acted as lead consultant for the assignment. He was responsible for designing the assessment framework and analyzing the data and reporting on the findings and recommendations. The MSM expert formed a team with four Ethiopian experts: two UNDP certified trainers on entrepreneurship education, one senior advisor on university management and entrepreneurship development, and a policy officer of ESC. All members of the team visited one or more universities for the data collection. The MSM expert was always visiting universities in tandem with an Ethiopian expert for translation and local facilitation purposes: he was responsible for an assessment report for four universities. The data

collection at the other five universities has been done by the two Ethiopian experts on entrepreneurship education: one expert visited two universities, the other three.

The assessment was carried out in a short time span, and encompassed the following six steps:

1. Design of assessment framework – In the period September – November 2014, the tailor-made entrepreneurship assessment framework was designed. This first version of the framework was discussed with ESC and the expert team for further fine-tuning on September 17.

2. Development of instruments – In the same period, the actual instruments for data collection were developed, and agreed upon in an expert team meeting on December 10. This were surveys measuring perceptions of internal and external stakeholders, and protocols for in-depth interviews and for focus group discussions. In addition, a listing was made on factual data and document to be collected at each university, adding quantitative data to the more qualitative data on perceptions.

3. Desk study – In preparation to the data collection, information has been obtained via literature review on Entrepreneurship education, the Entrepreneurial University concept, and Incubators. This allowed the study to be framed in the wider understanding and trends in higher education and entrepreneurship.

4. Data collection at universities - The data collection process was carried out in December 2014 and January and February 2015. The five experts visited nine universities to gather the quantitative and qualitative data, supported by a local staff member for accessing relevant information and data, and introducing them to relevant stakeholders. Data have been collected as follows:

- Content analysis of university documents, in particular university strategic plans and course descriptions, facts and figures;
- A structured survey focusing on needs and perceptions among leadership, faculty, students, and key external stakeholders;
- In-depths interviews with leadership;
- Focus group discussions with faculty, students, and external stakeholders.

For each university, data have been compiled in an entrepreneurship assessment report in line with the framework designed for this assessment. These university assessment reports have been sent to the MSM expert who then was able to do a comprehensive and cross-university analysis of both the quantitative and qualitative data.

5. Data validation workshop – From 11 – 13 May 2015, a validation workshop was held. The first two days were exclusively oriented towards the expert team. These two days of workshop first of all served to share the submitted reports, and discuss the initial findings and preliminary analysis. It also allowed for initial cross-case analysis, and to start formulating recommendations.

The actual validation took place with representatives of each of the universities in the sample and invited key stakeholders on May 13. Around 30 people participated discussing the major findings and tentative recommendations.

6. Final data analysis, policy development, and report writing – On the basis of the 9 university reports as well as the inputs and reflections of the data validation workshop, the experts continued and finalized the data analysis. As a next step, specific policies are recommended on fostering entrepreneurial universities, entrepreneurship education, and entrepreneurship centers/incubators. In May and June 2015, they prepared the final report and submitted it to ESC. In July the findings

have been presented at the international conference 'The role of Higher Education in Development' in Addis Ababa.

The survey

For this study, a survey has been developed with statements related to the seven categories of the entrepreneurial university framework of the OECD/EC. Most of the statements derived from the explanation given by the OECD/EC, supplemented by statements of the the entrepreneurial university scorecard as developed by the National Centre for Entrepreneurship in Education, United Kingdom. Statements were formulated for all the variables in the framework, in some cases only one statements, in other cases a group of statement, see annex 1. A 5-points Likert scale has been used for all the statements, with 1 indicating total disagreement, and 5 indicating total agreement.

The survey was slightly different for each of the four groups of respondents (leadership, staff, students, and external stakeholders). Whilst the formulation of statements were the same in all versions, only those statements were included that were appropriate for that group.

In this report, the aggregated results are presented per variable, divided per university and per group of respondents. The figure used is the weighted mean per variable, thus the mean corrected by the number of respondents per group.

3.5 The dataset

The data collection process was completed within the envisaged period of three months. The experts received proper support from the university management to conduct the assessment and collect the required information. In seven of the nine universities, the consultants succeeded in collecting the required quantitative and qualitative data, although not in all cases all the requested documentation could be retrieved in time. At two universities, the number of returned surveys was limited (AAU and Mizan-Tepi), and preparing the NPU reports. In some cases, there were challenges in making appointments for interviews, however in all universities sufficient interviews have been conducted. In some instances, the originally foreseen individual interviews with external stakeholders were replaced by focus group discussions to meet their schedule of availability.

The qualitative data of the assessment is based on a broad base of interviews and focus group discussions. Table 3 offers an overview of the number of informants in each university. In total, 223 persons have been interviewed or participated in focus group discussions.

Table 3. Number of key informant interviews and FGD participants by university

	(Vice) Presidents	Staff	Students	External stakeholders	**Total**
1st Generation					
Addis Ababa University	1	7	18	3	**29**
Adama University	3	6	12	8	**29**
Jimma University	3	10	9	6	**28**
2nd Generation					
Aksum University	2	9	7	7	**25**
Dire Dawa University	3	9	9	9	**30**
Mizan-Tepi University	3	8	4	5	**20**
Wollega University	3	9	9	6	**27**
Wollo University	3	6	9	4	**22**
Private Universities					
Unity University	1	6	5	1	**13**
	22	**70**	**82**	**49**	**223**

The quantitative data on perceptions of the level of entrepreneurial university are based on a total of 206 respondents divided over four categories (leadership, staff, students, and external stakeholders). The number per category per university is too small for making a statistical analysis on that level. The number of respondents from AAU is low (14) with no response from the leadership neither from external stakeholders. Also the number of respondents from Mizan-Tepi University is low (15), but with respondents in all four groups.

Table 4. Number of questionnaires filled-out by university

	(Vice) Presidents	Staff	Students	External stakeholders	**Total**
1st Generation					
Addis Ababa University	0	3	11	0	**14**
Adama University	3	6	8	8	**25**
Jimma University	2	10	9	6	**27**
2nd Generation					
Aksum University	2	8	7	6	**23**
Dire Dawa University	3	9	9	9	**30**
Mizan-Tepi University	1	7	4	3	**15**
Wollega University	3	9	9	6	**27**
Wollo University	2	6	9	4	**21**
Private Universities					
Unity University	3	9	10	2	**24**
	19	**67**	**76**	**44**	**206**

4. Empirical findings

In this chapter the empirical findings of the in-depth interviews, focus-group discussions, content analyses as well as the survey are described, categorized by the seven dimensions of the conceptual framework.

4.1. Leadership and Governance

The study assessed factors which relate to the leadership and governance of a higher education institution. As indicated before, making students more entrepreneurial requires an entrepreneurial university to be reflected in vision, mission and strategy.
The factors explored are:

- University strategy: does the university have a working mission statement with an entrepreneurial vision for the future of the institution, operationalized with specific objectives and indictors. To develop as an entrepreneurial organization with an entrepreneurial culture the entrepreneurial activities should be established in the strategy.
- High-level commitment: who is made responsible for the entrepreneurial agenda (if any) and to what extent is entrepreneurship understood as a priority by staff and students.
- Internal coordination and integration: is an entrepreneurship structure in place which co-ordinates activities within the institution and with other stakeholders. Does the university has a model for coordinating and integrating its entrepreneurial activities?
- Level of autonomy: overcoming bureaucratic barriers is key to entrepreneurship. Higher education institutions with fewer barriers or hierarchies find it easier to undertake entrepreneurial activities and speed up idea creation and decision making.
- Support to regional community development: is the university an active player, driving community development, linked to the external environment by having a strong presence in the community? This might include for example, providing facilities to others from outside the institution, participating in regional clusters, supporting local cultural and artistic activities, providing opportunities for regional start-ups or established companies and taking an active role in determining the strategic direction of local development.

University strategy
Given that entrepreneurship education and entrepreneurial activities are at their infant stage at Ethiopian universities, the intention to become a solid entrepreneurial university is not clearly reflected in the strategy and vision of universities.

All public universities in Ethiopia will have to come up in 2015 with a new multi-year strategic plan in the framework of the second Growth and Transformation Plan of the Ethiopian government (GTP2). It is most likely that entrepreneurship and enterprise development will become more prominent in many of these new strategies than in the current strategies given the larger emphasis put to this by the government and because recently entrepreneurial activities have started which are not yet reflected in most of the current strategic plans.

At the time of study, the new strategies were not yet drafted and reference had to be made to the current strategies, formulated four to five years ago that are about to expire. In these strategies, a comprehensive vision and strategy on becoming a more entrepreneurial university is not present.

The survey results on 'Entrepreneurial strategy' are listed in table 5. The upper part of the table presents results per university, the lower part per group of respondents. 'N' is the number of respondents. The values indicate the views of the respondents on how far their university has an entrepreneurial strategy, measured with four statements. Values are between 1 and 5, with 1 indicating total disagreement, and 5 indicating total agreement of statements.
The data present a rather positive picture, more than would be expected from the content analyses, interviews and focus group discussions.

Table 5. Aggregated survey results on 'Entrepreneurial strategy'

	Adama ST	AAU	Aksum	Dire D.	Jimma	Mizan-T.	Unity	Wollega	Wollo	All
N:	*25*	*14*	*23*	*30*	*27*	*15*	*24*	*27*	*21*	*206*
1. Leadership & Governance										
Strategy	3.72	3.43	3.48	3.10	3.44	3.27	3.41	3.56	3.63	*3.45*

	Leadership	Faculty & Staff	Students	External Stakeholders	All, weigthed
N:	*19*	*67*	*76*	*44*	206
1. Leadership & Governance					
Strategy	3.16	3.26	3.41	3.89	3.44

Knowledge and awareness about what an entrepreneurial university may entail seems limited among part of the university leadership. The study revealed that the top-leadership is not considering entrepreneurship development as part of the mission and vision of the institute, because the mandate of the universities is to equip students with the right skills, knowledge, and attitudes for them to create jobs and find succeed in employment. Entrepreneurship is according to them framed within this mandate.

Some respondents indicate that pursuing an entrepreneurial agenda deviates from the core mandate of education, research and community outreach. A university leader explicitly was of the opinion that business development was not strictly in line with the university objective "to equip students with required knowledge". Students were not stimulated to start up their own business because it would affect the teaching and learning process.

No evidence has been found of strong support by and interaction with key governmental institutions to support universities' endeavors towards a more entrepreneurial agenda. This is referring to institutions like the Ministry of Education, Ministry of Finance and Development, Ministry of Science and Technology, the Parliament, the National Auditor.

Views on the role of universities in society apparently differ among the leadership. They vary from the university being an independent space for discovery and learning, mono-disciplinary organized, towards a university as a more open and comprehensive organization with multidisciplinary knowledge production, a diverse organizational structure, and social accountability to a multitude of stakeholders. In the vision of the independent mono-disciplinary space for learning is no room for an entrepreneurial strategy.

Entrepreneurial elements do however exist in several of the university strategies assessed, of which the most prominent is the income generation which is an entrepreneurial activity of high importance. Also reference is made to entrepreneurship in relation to education and to community outreach. Entrepreneurial skills are for instance listed as a performance indicator for the strategic result 'Produce higher level of skilled and competent graduates' (Aksum University), and AAU aims

at producing ''competent graduates with entrepreneurial attitudes for the world of work and life" and "building entrepreneurial skills" of the community. At Jimma University, the entrepreneurial agenda is also manifested in the research policy which supports the commercialization of research output, and in a grant and consultancy framework that guides partnership with different donors.

In the case of AAU, 'entrepreneurial spirit' is defined as one of the nine university values, formulated as 'the university upholds and inculcates the spirit of entrepreneurship among its community'.

Institutes of Technology
The new Institutes of Technology (IoTs) have a special position. They have a certain level of independence and are purposefully set-up to feed industrial development. It is often assumed that engineering departments and graduates are more entrepreneurial than others. This assumption is in this study confirmed in AAiT, Dire Dawa and Adama, but not in Jimma. For instance the draft strategy plan of AAiT (2014/15 – 2018/19) has a strong entrepreneurial focus, from the level of overarching strategic goals ("creating an entrepreneurial institute which incubates SMEs and creates jobs") up to the level of concrete, quantitative indicators. Dire Dawa Institute of Technology has an entrepreneurial orientation and is working to be more entrepreneurial. For instance, they aired a call for innovative ideas competitions among students.

Private universities
Comparing the public universities with private universities in Ethiopia reveals little differences. Just like the public universities, Unity University has no entrepreneurial agenda. Apart from offering a course on entrepreneurship, it is not having any entrepreneurial activities.

An exception may be Saint Mary University that already in 2000 started with a course on entrepreneurship and set-up an Entrepreneurship and Innovation Center in 2008.

High-level commitment
Findings demonstrate that an active engagement of the top-leadership in fostering entrepreneurial activities has positive results. It leads to a more open attitude and more support towards student and staff initiatives, new centers being set-up, and enterprise development.

At Aksum University, the President himself is actively stimulating business development and supporting student initiatives, like starting up student-run businesses on campus. He values highly the need for becoming a more entrepreneurial university; developments in this respect seem to depend largely on his involvement and initiative. The Wollo University President established a team of experts from different disciplines for developing a proposal to set-up an incubation center and the management provided the required resources and approved the legislation immediately after the team provided the documentation. The president personally has a good awareness and understanding about the importance of entrepreneurship and as a result the above initiatives are made within short time. The President of Adama Science & Technology University is 'passionate' about entrepreneurship and the university seems to draw on the experience of South Korea from which the President comes. The university is paying allowances and spends expenses for the center officials and office in general from the university budget which can be considered as an indicator for management attention.

In the Universities studied, it was found out that those universities in which top-leadership were less committed, they had less entrepreneurial activities and the environment was in general less conducive for student business development. The university leadership were openly criticized for their failure in this respect.

The involvement of the University Board in management of the university is limited in general, but particularly in fostering an entrepreneurial agenda. The Presidents often played a major role while the Boards acted as the formal highest body concentrating in endorsement of plans and budgets. An exception is income generation where the Board played a more active role in the setting-up of university enterprises and incubation centers, as the latter required formal endorsement by the Board.

According to studies, a University Board in which business is represented is considered conducive for shaping an entrepreneurial university. In Ethiopia, the Boards are mainly composed of politicians and government officials. The Board of Wollo University is an exception, with 50% of its membership drawn from business representatives (including the Chairperson). The limited information obtained does not however indicate a difference in regard to the entrepreneurial orientation among the universities whether composed of public or private Board members. A special case is Unity University which is governed by business men but that is not resulting in an active development toward a more entrepreneurial university.

The survey results on 'High-level commitment' are listed in table 6. It should be noted that this variable was only itemized in the surveys for the university leadership and staff, measured with one statement.

Table 6. Aggregated survey results on 'High-level commitment'

	Adama ST	AAU	Aksum	Dire D.	Jimma	Mizan-T.	Unity	Wollega	Wollo	All
N:	*25*	*14*	*23*	*30*	*27*	*15*	*24*	*27*	*21*	*206*
1. Leadership & Governance										
High-level commitment	3.33	2.33	3.80	3.17	3.08	2.75	3.83	4.00	4.13	*3.38*

	Leadership	Faculty & Staff	Students	External Stakeholders	All, weigthed
N:	*19*	*67*	*76*	*44*	206
1. Leadership & Governance					
High-level commitment	4.13	3.24	-	-	3.43

Internal coordination and integration

Just very recently, universities are starting to set-up structures specifically assigned to work on entrepreneurship development. See table 7 for an overview of entrepreneurship centers at the universities studied. All these initiatives were at the time of study still in a start-up phase without operational activities. Also at other universities, like Mekelle, Bahir Dar, Hawassa and Woldia centers started, but often not yet active. The set-up of entrepreneurship centers is part of the government's policy to form such a center within each public university. The government has tasked the Addis Ababa based Entrepreneurship Development Centre (EDC) to facilitate this process (see chapter 3). As a result, EDC has assisted the establishment of entrepreneurship centers in five universities in 2014.

Table 7. Entrepreneurship centers at the universities studied

University	Name of the center	Founded in	Remarks
AAU - AAiT	Centre of Innovation and Entrepreneurship	2014	Being set-up with support EDC-Ethiopia
AAU – CoBE	Centre of Innovation and Entrepreneurship	2014	Being set-up with support EDC-Ethiopia
AAU –	Business Innovation Center	forthcoming	European Union funded

CoBE			Transformation Facility project
Adama ST	Entrepreneurship Development Center	2014	Being set-up with support EDC-Ethiopia & Korean example
Aksum	Entrepreneurship Development Center	Late 2014	Being set-up without external support
Dire Dawa	Not available	n/a	Staff has ideas to start-up a center
Jimma	Entrepreneurship and Career Management office	Forthcoming	Approved in 2014, but early 2015 not yet operational
Unity	Not available	n/a	Not foreseen
Wollega	Research Park	Late 2014	Being set-up without external support
Wollega	Incubation Center	2014	Approved in 2014, but early 2015 not yet operational
Wollo	Business Incubation and Technology Transformation Center	2015	Being set-up without external support

In addition Mekelle, Bahir Dar, Hawassa, Woldia, and Dilla universities have recently established entrepreneurship development centers while the establishment of such a center is underway at Wolaita Sodo University.

EDC has helped in the development of a business model for the Centers of Excellences in Entrepreneurship (CoEEs) established in Addis Ababa, Adama, Hawassa, Bahir Dar, and Mekelle universities. The business model proposes the institutional set up of the centers within the university structure and a general framework on how the centers should operate. The universities can customize the business model to suit their local context or adopt it as it is.
Mandates of these centers differ, from entrepreneurship awareness among students up to a center that has the potential of coordinating all the enterprise development activities of the university. A good example of the latter is the Business Incubation and Technology Transformation Center at Wollo University which is established to:

- Provide training and consultancy services
- Create university industry linkage
- Looking for and exploiting business opportunities in the local, regional, national and international level
- Creating new business ideas and develop them
- Create integration with local, regional, national financial institutions
- Incubate student and staff business ideas
- Support SMEs to grow to medium level enterprises
- Help incubates to get access to finance and other material inputs like internet facility, stationary materials, working and marketing premises, printing services.

Up to date, university wide internal coordination of entrepreneurship development activities is not yet happening, neither a model for coordinating and integrating its entrepreneurial activities found. The absence of such a coordinating unit may lead to overlap among centers, structures and directorates.

The survey results on 'Internal coordination' are listed in table 8. It should be noted that this variable was only itemized in the surveys for the university leadership and staff, measured with two statements. The results suggest a better internal coordination than what came out of the interviews.

Table 8. Aggregated survey results on 'Internal coordination'

	Adama ST	AAU	Aksum	Dire D.	Jimma	Mizan-T.	Unity	Wollega	Wollo	All
N:	*25*	*14*	*23*	*30*	*27*	*15*	*24*	*27*	*21*	*206*
1. Leadership & Governance										
Internal coordination	3.28	2.67	3.25	3.13	2.79	3.19	3.35	3.83	3.44	*3.21*

	Leadership	Faculty & Staff	Students	External Stakeholders	All, weigthed
N:	*19*	*67*	*76*	*44*	206
1. Leadership & Governance					
Internal coordination	3.58	3.15	-	-	3.24

Level of autonomy

In general terms, the level of autonomy of each public university in Ethiopia is restricted as universities are considered as implementing institution of national government policy. The university is governed by the higher education proclamation and government financial directives. Student enrollment is centralized on national level (students are assigned to a university and department), staff recruitment and remuneration are controlled, and undergraduate and graduate curriculum is 'harmonized'. The latter implies that each university needs to implement the same programs and that at the level of the individual university it is not possible to change curricula. Changes will require a decision by the National Curriculum Committee of the Ministry of Education.

Senior leadership positions are appointed by the Ministry. (Financial) administration needs to follow strict central rules and procedures. An example is the non-approval of an initiative taken by a university President to make a change in the reward system of staff, approved by the Board. All this limits the possibilities of universities to perform entrepreneurially and according to a President "adversely affecting the teaching learning process".

In general the Ministry of Education and the Ministry of Finance and Development are supportive to the university if it initiates entrepreneurial activities. Universities are increasingly expected to generate income (so-called 'internal revenue').

The different groups of informants considered in this research display differences in response to the level of autonomy of the university. According to responses of the leadership of the university, the university enjoys considerable level of autonomy within the framework of the rules and regulations governing public institutions. Opinions differ among university leadership about the room for universities to use the budget for entrepreneurial development and other important affairs. At Adama University, the leadership states that One Vice President mentioned for sure that the university cannot utilize the internal revenue it generates without the approval of the Ministry of Finance and Economic Development and only up to a maximum of 75%. One of the President states that the higher education proclamation is not clear; it has permitted universities to be engaged in income generation activities without specifying the type of business they can be in. The only article of the Proclamation related to this issue is article 62 sub article 8 which indicate that "any public institution shall report to the Ministry of Finance and Economic Development and the Ministry of Education or the appropriate state organ receipt of funds from third-parties and its investment incomes."

Next to the Proclamation, the Ministry of Finance and Economic Development issued in July 2014 a directive pertaining to the internal revenue, in particular specifying the decision making authorities of the university and purposes of income generated. Apparently the contents of this directive was not yet well-known to all leadership-respondents.

Staff interviewed argue however that the existence of huge government involvement in the day to day operations of the university cast doubt on the autonomy of the university. Also the current greater emphasis on entrepreneurship is considered by many to be a national government priority, its implementation needs to be accelerated. Informants believe that the current environment is not conducive to encouraging entrepreneurial attitudes like risk taking, pro-activeness, and self-initiative. Informants state that the prevailing way of working is to wait for instructions instead of taking initiative.

The picture is mixed on how university leadership is going about student and staff initiatives. In some cases students and staff name positive examples of Presidents that are easily accessible, supportive, and willing to listen to new initiatives, like female students who want to start-up a Student Entrepreneurship and Innovation Club. At other universities, students – and staff – complain about feeling discouraged because of negative experiences. For instance, students' attempt to create their own student level professional association in one of the universities was not welcomed by the management of the university. In some universities, students indicate that initiative is hampered because it is not clear whom to ask for what, what budget may be available, with which procedure. Students are mentioning a serious challenge which is to deal with internal bureaucracy. For them it is not easy to understand the structure of the organization where they have to go for what. It is their experience that staff has the tendency to first deny support and are not so easily willing to cooperate.

Private universities
The situation at a private university is different, being more flexible than public universities in generating income and managing the institution. Concerning the set-up of new Degree Programs, a private university needs however prior approval from HERQA (accreditation) which seems to be a difficult process. It is however free to open all kind of non-degree programs, like short executive programs.

The survey results on 'Level of autonomy' are listed in table 9 based on the answers on three statements. The more critical view of staff is reflected in the results with a considerable lower score than the leadership (2.96 and 3.67 respectively).

Table 9. Aggregated survey results on 'Level of autonomy'

	Adama ST	AAU	Aksum	Dire D.	Jimma	Mizan-T.	Unity	Wollega	Wollo	All
N:	*25*	*14*	*23*	*30*	*27*	*15*	*24*	*27*	*21*	*206*
1. Leadership & Governance										
Level of autonomy	3.44	2.75	3.51	2.67	3.30	2.58	3.23	3.50	2.94	*3.10*

	Leadership	Faculty & Staff	Students	External Stakeholders	All, weigthed
N:	*19*	*67*	*76*	*44*	206
1. Leadership & Governance					
Level of autonomy	3.67	2.96	3.00	3.44	3.14

Support to regional community development

The study explored in how far the universities are active players, driving community development and have a strong presence in the community. The picture is mixed, with some universities very active, other at the start of building up relations. Regional or zonal platforms in which government institutions, private sector, and the university together structurally partner and implement a shared vision and strategy of regional development are not existing in any of the locations studied. Most of the universities have a long way to go to be a leading actor in regional development.

The universities are however in a good position to take such a leading role. Ethiopia executes a government-led development vision of the country in which public universities have the explicit mandate and budgets to actively work on community development. This is in particular the case for younger generation universities that have been purposeful located in different, sometimes more remote regions of the country to boost development. The strong representation of high-level regional stakeholders in the board of directors of public universities speaks a lot of the intention to contribute to the social and economic development of the community and regions in which they operate.

The survey results on 'Support to regional development' are listed in table 10. The three statements that in tandem measured the perception on this variable were not included in the survey for students. The results indicate positive perceptions on the support by universities to regional development, more positive than would be expected from the interviews.

Table 10. Aggregated survey results on 'Support to regional development'

	Adama ST	AAU	Aksum	Dire D.	Jimma	Mizan-T.	Unity	Wollega	Wollo	All
N:	*25*	*14*	*23*	*30*	*27*	*15*	*24*	*27*	*21*	*206*
1. Leadership & Governance										
Support to regional developm.	3.32	3.00	4.01	2.94	3.43	3.03	3.40	4.14	4.48	*3.53*

	Leadership	Faculty & Staff	Students	External Stakeholders	All, weigthed
N:	*19*	*67*	*76*	*44*	206
1. Leadership & Governance					
Support to regional developm.	3.86	3.50	-	3.50	3.55

Being a federal government institution, linking up to other governmental institutions for public universities is rather easy. About most of the relations with external stakeholders are with government institutions, including government-owned enterprises. Limited number of meaningful partnerships exist with key players in the private sector.

External stakeholders believe in the importance of the university's role in the local and regional development activities.

Concretely mentioned are the support of creating human resource capacity, offering employment, and creation of a market. In Jimma, in addition are mentioned: intervention in dealing with such societal problems as contracting bridges, providing health services, and economic empowerment of societies affected by mega projects in the area.

There are structures at regional level that bring together Technical and vocational schools, SME offices, and Micro Finance Institutions to jointly perform employment initiatives. The university could make a significant contribution if it would be part of such a group.

In general, the expectations are high and in several cases not yet met. The picture is again mixed. For instance in Aksum, Jimma and Wollo, informants have been positive on the achievements and evidence shows an active involvement of universities in local and regional development. At other locations, information is obtained of strong perceptions on underutilization of opportunities. For instance the case of MoUs signed without any outputs generated is mentioned as an example. In Mizan Teferi, informants stated that the university has never conducted an employment needs assessment among the youth in the zone, although it is believed to be in a better position to do so than any other actor given its intellectual capacity and resources. They also complain that until recently local entrepreneurs had no business contracts with the university. According to the President, however all the work is formally tendered. The university has to comply with national procurement rules and regulations, which does only allow cooperation with VAT registered companies. As a result, the majority of local micro and small enterprises are not eligible to participate in formal tender procedures.

A recent study on community outreach at AAU and four younger universities (Sellamna & Amare, 2014) concludes that "One could argue that it is in development activities that NPUs excel AAU in outreach performance. It is only recently that AAU started participating in large projects such as the Millennium Grand Renaissance Dam, and sugar and fertilizer chemical industries. Yet the number of participating academic staff in development is relatively low. Its outreach Directors have many plans to participate in direct development activities in the future. But the NPUs appear to have far more engagement in development activities than AAU despite its comparatively more highly experienced professors and infrastructural capacity."

The situation of the private university is different. Access to government institutions that are present everywhere is less obvious and the private sector is still underdeveloped in Ethiopia. In the case of Unity University, external relations are concentrating on the fellow companies within the MIDROC Technology Group. This seems more pragmatic than based on a grand vision and strategic approach of the role of the university in economic development.

4.2. Organizational capacity, people and incentives

The study assessed factors which relate to the organizational capacity of a higher education institution. As indicated before, higher education institutions can be constrained by their own organizational structures and approaches, making it more difficult to carry out the types of entrepreneurial activities which support their strategic objectives. The factors that have been studied are the financial strategy, internal cooperation, and human resources management.

Financial strategy

All public universities in Ethiopia are almost entirely funded by the national Treasury. The 2009-2014 strategies include however increasing internal revenue opportunities as a main strategic area, formulated like to 'Expand potential revenue opportunities'. Information obtained show that targets differ, ranging from 15 to 20 percent in 2015. The little information received indicate that public universities are lagging behind or even far behind the official targets.

The income generation strategy is operationalized mainly through setting up of university enterprises which is a recent development. In many cases, the university and its employees are the major clients of these enterprises. They are often involved in supplying the materials and services for the university. Another instrument of income generation are tuition fees for evening, distance and summer courses. The recently founded centers (see above) are meant to be the engine for income generation.

Many universities in Ethiopia have or are setting-up university farms with the purpose to generate income.

A reference point in Ethiopia is AAU, see box below. In addition to the government budget the outreach and research services of the university generate 500 million birr annually (Sellamna & Amare, 2014). One could conclude from the AAU experience that universities have a great potential for raising funds from their outreach activities. It is possible that they generate as many funds as the government can allocate, given the fact that they run several outreach programs such as summer courses, distance education and holiday courses.

Box 1. Income generation by AAU

AAU increasingly generates income through establishing university enterprises that develop knowledge and technology products and make them available in the market. The university has a printing press -the AAU Printing Press- which offers commercial services to off-campus buyers for revenue generation. Core business is publishing books, journals and teaching materials of academic staff. AAU printing Press has been recently given a separate status as commercial enterprise. Other enterprises are a law firm, accounting firm, building firm, bank, hospitals, film making, livestock production, etc.

Through its Directorates, AAU is at present attracting the government and other development agents to market its professional services. It has made the Directorate of Consultancy and Training the University's licensed Business Enterprise (PLC). According to the Director, the Business Enterprise is operational since September 2013. It has collected the seed money (Birr 10 million) made available by the government for this purpose. The Director also indicated that 12 enterprises are allowed and 9 of them have already become operational (see listing above). His Directorate is now shifting to business development, a process of commercializing the university's knowledge and skills.

The Training and Consultancy Centre of AAU has developed a catalogue of 523 broad areas of training services that would be further screened on the basis of stakeholder needs but has already selected 20 training topics for which training modules have been developed. The duration of training varies from five to ten days.

Universities in Ethiopia have an issue when it comes to income generation through consultancy because the majority of consulting is done on individual basis by academic staff, thus not leading to income for the university. Although systematic data are not available, the involvement of academic staff in individual consultancy is assumed to be very high, in particular at more vested universities like AAU. Many professors admit that they complement their basic salaries with income generated from consultancy. Some use concurrent time and some others use their sabbaticals for consultancy work. Not surprisingly, professors prefer individual consultancy to institutionalized consultancy, unless the client insists (which rarely happens), ostensibly due to inefficient financial management in the university. Universities are also ill-equipped to meet the deadlines usually required for the submission of bidding documents. Their participation in consultancy has always been from direct offers from government or international organizations, both of which are getting scarce these days.

The main difference for private universities is that they generate their main income out of tuition fees.

At none of the universities studied, an earmarked budget for entrepreneurship development was allocated.

Internal cooperation

An element of the entrepreneurial university is the level in which there are mechanisms in place for breaking down traditional boundaries and fostering new relationships - bringing internal stakeholders together (staff and students) and building synergies between them.

Information obtained show the universities are strongly mono disciplinary organized in which cooperation among faculties and colleges differ per institute: in most of the universities studied internal cooperation is limited, whilst others show good experiences. A challenge towards internal cooperation is academic specialization and the tendency to give more attention to own departments or colleges.

An opportunity for cross disciplinary cooperation exists in research. Staff at several universities mention that the research approach encourages deploying faculties from different departments and colleges for solving a problem. A multi-disciplinary team composition is a criterion for obtained internal research funding. The research practice at Ethiopian universities is still weak. A positive development is that multi-disciplinary research centers are being set-up.

Positive experiences are noted from Jimma, Wollo, and Wollega University. At Wollega University, complimentary work units often plan and execute their joint tasks together. All work groups are willing to cooperate and coordinate their tasks. At Jimma University there are several instances that display synergy among and between different units, like:

- The cooperation between Institute of Technology and College of Medical and Health Sciences in jointly running a program in biomedical engineering.
- Partnership among colleges of agriculture, natural sciences, agriculture, and medical and health sciences in implementing VILR project (Vlaamse Inter Universitaire Raad – Flemish Inter University Council).
- Cooperation between Departments of Psychology and Nutrition to implement child health projects.
- Team Training Program (TTP) and community based training programs (CBTP) philosophies of the university in which students from different departments work together to find joint solutions to community problems.

At Wollo University the School of Medicine and Health Science is conducting joint research on traditional medicines in collaboration with the College of Natural Science. The College of Social science has good practices of team-based learning.

Also at AAU positive experiences exist. The cooperation between AAiT and CoBE is good, for instance leading to the plan to develop a new MSc on technology and business for which a joint AAiT-CoBE working committee will be set-up. According to informant, exchange of experiences with other colleges seems not to take place, at least not in a structured, formal manner.

Staff at Jimma University believe that university's internal cooperation would have been more synergetic if awareness about the importance of internal cooperation would be bigger. Also they note the issue of overlap and lack of clear authority delineation among different units which try to promote entrepreneurship development.

The survey results on 'Internal cooperation are listed in table 11, based on the answers on two statements.

Table 11. Aggregated survey results on 'Internal cooperation'

	Adama ST	AAU	Aksum	Dire D.	Jimma	Mizan-T.	Unity	Wollega	Wollo	All
N:	*25*	*14*	*23*	*30*	*27*	*15*	*24*	*27*	*21*	*206*
2. Organizational capacity										
Internal cooperation	3.47	3.07	3.88	2.90	3.52	2.92	3.96	3.90	3.29	*3.43*

	Leadership	Faculty & Staff	Students	External Stakeholders	All, weigthed
N:	*19*	*67*	*76*	*44*	206
2. Organizational capacity					
Internal cooperation	3.79	3.44	3.39	-	3.46

Human Resources Management

The study tried to get information on how universities are attracting and retaining the right people and whether they are providing sufficient incentives to promote and encourage entrepreneurial behavior.

The biggest human resources challenge for universities is to attract and keep good staff, in particular for universities located further away from Addis Ababa. Many people prefer to work in or in the proximity of Addis Ababa. Given that public universities have no say in the salary schemes of staff because they are bound to federal regulations for civil servants, university leadership seeks ways to create a pleasant, rewarding working environment. The set-up of university enterprises fits in this strategy, offering affordable services for staff as well as an opportunity for earning additional income. See table 12 for reward systems in public universities active in business assignments. It shows large differences among the universities. A point in case is Aksum University where the university only charges 10% of business revenues to cover internal administration costs.

Table 12. Revenue shares for university staff in business assignment

University	% of revenue share for staff
AAU / AAiT	No information obtained
Adama ST	No approved reward system in place
Aksum	90%
Dire Dawa	No reward system in place
Jimma	75%
Mizan-Tepi	No reward system in place
Unity	No information obtained
Wollega	25%
Wollo	70%

Entrepreneurial attitudes and experience do not play an explicit role as criteria for recruitment (of faculty and support staff) at public universities. Reward practices do not exist for staff that has shown good entrepreneurial behavior in the year, and no evidence is found of entrepreneurial career development. No budget is allocated for training on entrepreneurship, but – at least at Dire Dawa University - requests brought forward to the Research and Community Office could be granted.

At the private Unity University, working experience in the sector of relevance for the subjects taught is a criterion for recruitment. Many lecturers work part-time at Unity University besides running a business or otherwise. Benefits of staff are far better than within the public universities.

Beyond the specifics of entrepreneurship it has been noted that the existing working and learning environment on most of the campuses is still under development. As a result, students and staff are

frequently preoccupied with day to day issues, giving little room for entertaining entrepreneurial behavior. A positive note in this respect is that at Wollo University the development of a conducive learning environment is given explicit attention in the university legislation on student affairs. It states that "the university has the goal of doing what is possible for students to assess and accept themselves, identify their strengths and deficits and work on becoming better persons as leaders, competent professionals and viable members of the community at any level and diversity." This study has not been able to receive information on this matter from the other universities.

The survey results on 'Human Resources Management' (based on the answers on five statements) are listed in table 13 indicating that staff is the most critical.

Table 13. Aggregated survey results on 'Human Resources Management'

	Adama ST	AAU	Aksum	Dire D.	Jimma	Mizan-T.	Unity	Wollega	Wollo	All
N:	*25*	*14*	*23*	*30*	*27*	*15*	*24*	*27*	*21*	*206*
2. Organizational capacity										
HRM	3.13	1.89	3.35	2.46	2.81	2.53	3.44	3.52	3.29	*2.94*

	Leadership	Faculty & Staff	Students	External Stakeholders	All, weigthed
N:	*19*	*67*	*76*	*44*	206
2. Organizational capacity					
HRM	3.34	2.71	-	3.41	3.04

4.3. Entrepreneurship Development in Teaching and Learning

The study assessed factors which relate to entrepreneurship development in teaching and learning, the core objective of each university. The factors that have been studied are related to the organizational structure to support entrepreneurial development as well as tools to deliver education and training opportunities: are academic structures and positions in place on entrepreneurship, including student initiatives, which programs are offered to whom, by whom and in what manner, and is research on entrepreneurship taking place.

Academic structures and positions
No professorship nor senior faculty on entrepreneurship (and/or innovation) exist in any of the universities studied, neither foreseen. Faculty engaged in entrepreneurship education are by and large more junior lecturers from the Colleges of Business and Economics.

Student initiatives
At the universities there are not yet student organizations that specifically focus on entrepreneurship, like a Student Entrepreneurship Club or Association. At Aksum University however, a Student Entrepreneurship and Innovation Club is in the process of being set-up on the initiative of female students who asked – and got – support from the President. With this club, the students want to combine doing business with generating income for needy students. University support is channeled via the new Entrepreneurship Development Centre. It is the intention to launch this club in 2015. The university will facilitate with space, equipment, and advice.

In most of the universities studied, students make mention of lack of funds and support by the university to encourage students to start-up a project. It seems that policies and regulations are not clear resulting in different approaches and attitudes from university management towards student initiatives. In several universities the new Entrepreneurship Development Center is seen as the unit that will give support to students with business ideas.

At the older universities, like Jimma, there are few petty on campus businesses owned by students. The university provides support as start-up capital and working places for the students. Due to this support, several students are operating micro businesses side by side their university study. A best performing student in this regard has profited more than Br. 20,000 up on graduation in 2014. At Aksum, there is a plan to have a cafe and involve needy students in the cafeteria service and solicit money.

Box 2. Student social entrepreneurship

A typical approach in entrepreneurial student initiatives is the combination of earning money and supporting needy students. Departmental student associations at Aksum University have the objective of supporting each other in education and financially. The associations solicit money from the students and are supported by the university in terms of equipment and space. One of these associations is the Management student club, coordinated by students and lecturers. The main objective is to support students who are not doing well in education by other students and teachers. And those students who are economically needy are also supported. Money is solicited from senior students, voluntarily, 1 to 2 Birr per student per month. Parties are also organized to solicit money and create awareness.

The survey results on 'Student initiatives' are listed in table 14, based on the answers on one statement. With exception of Adama Science and Technology University, all universities studied scored below 3. Staff is even more critical than students about the support given by the universities for student initiatives.

Table 14. Aggregated survey results on 'Student initiatives'

	Adama ST	AAU	Aksum	Dire D.	Jimma	Mizan-T.	Unity	Wollega	Wollo	All
N:	*25*	*14*	*23*	*30*	*27*	*15*	*24*	*27*	*21*	*206*
3. Teaching & Learning										
Student initiatives	3.00	1.86	2.91	2.10	2.62	1.75	2.23	2.92	2.70	*2.45*

	Leadership	Faculty & Staff	Students	External Stakeholders	All, weigthed
N:	*19*	*67*	*76*	*44*	206
3. Teaching & Learning					
Student initiatives	2.65	2.31	2.51	-	2.44

Educational programs

The idea of entrepreneurship in teaching is to encourage and stimulate entrepreneurial behavior of the students. The findings of this assessment clearly indicate that this is not happening at none of the universities studied within the formal Bachelor and Master education programs, neither in content nor in approach. Extra-curricular activities however are offered increasingly to entrepreneurial students: these findings are described in the next section (Pathways for Entrepreneurs).

At the level of the individual university, there is hardly any possibility to change degree curricula because the Ministry of Education follows a strict policy of nation-wide harmonization: each university is expected to implement the same programs. A major change will require a decision by the National Curriculum Committee of the Ministry of Education. In practice, curricula are revised frequently on the initiative of the Ministry. This can be the introduction of new courses, reduction of

some courses, change of the status of a course from minor to major or the reverse, modification of prerequisite issues, increase or decrease of credit hours, or a change of semester and year where the course is given.

In the undergraduate program of the public universities one entrepreneurship course is offered at the last year of the study program. The exact name and number of credits differ per department and university, but on average it is a three credits common course. Names found are:

- Entrepreneurship
- Entrepreneurship and Enterprise Development
- Entrepreneurship for Engineers
- Entrepreneurship and Small Business Management.

The course is part of curricula of most but not necessarily all the departments of the Colleges of Business and Economics and of the Institutes of Technology. In addition, the course is offered at some of the departments in Natural and Computational Science/Informatics, Social Sciences, and Agriculture/Veterinary.

The situation differs per university. See box 4 for the course description, objectives and mode of delivery of the 'Entrepreneurship and Enterprise Development' course. Also included in this report is the course description of the course 'Entrepreneurship and Small Business Management' at Adama Science and Technology University (box 5) because it is slightly differently formulated with a larger focus on application of knowledge.

At all universities, the lecturers are from the Department of Management of the College of Business and Economics complimented by lecturers of the Institutes of Technology. These lectures also deliver the entrepreneurship course at the other departments (with a few exceptions). In most of the cases, the course delivery is centrally administered by Department of Management. The number of lecturers is limited (at AAU CoBE only two) and it is seen as a generic topic. At Aksum University the delivery is per year by different lecturers of the department, in total a group of 12 lecturers.

Box 3. Entrepreneurship and Enterprise Development course description, objectives and mode of delivery

This multidisciplinary course is designed to introduce students to the concept of sustainable entrepreneurship, a manageable process that can be applied across careers and work settings. It focuses on building entrepreneurial attitudes and behaviors that will lead to creative solution within community and organizational environments. Course topics include the history of entrepreneurship, the role of entrepreneurs in the 21st century global economy, and the identification of entrepreneurial opportunities. The elements of creative problem solving, the development of a business concept/model, the examination of feasibility studies and the social /moral/ethical implication of entrepreneurship will be incorporated. Issues related to starting and financing a new venture are included.

Learning objectives:
The course enables students to have an understanding on:

- Define entrepreneurship within the context of society; organizations and individuals.
- Understand more about the specific management issues involved in setting up and running a small enterprise.
- Demonstrate an understanding of the impact of entrepreneurship on the economy.
- Distinguish between an entrepreneurial and a conventional approach to management.
- Recognize and overcome obstacles to creative problem-solving.
- Describe the element of an effective business model/plan.

- Develop a concept for an innovative product or service in his or her own area of interest.
- Recognize that entrepreneurial success in the 21st century depends on teamwork and diversity.
- Develop a personal framework for managing the ethical dilemmas and social responsibilities facing entrepreneurs.
- Describe the leadership studies of entrepreneurs who have been successful in different sectors (e.g., start-ups, corporations. Community, public sector, etc.).
- Equipped with the basic knowledge and skills of starting and operating a business for they will be the future managers (or even Owner-managers) of these firms.
- Identify traits/characteristics of an entrepreneur/ entrepreneurs as exhibited in behavior.
- Analyze elements of the entrepreneurial mind set and discuss the implications for functioning as a successful entrepreneur.

Modes of delivery are:

- Listen to a lecture and take notes on the lesson treated
- Take part in reading assignment
- Group Discussion
- Individual reflection
- Case study discussion and analysis
- Assignment presentation

Box 4. Entrepreneurship and Small Business Management course description and objectives, Adama Science and Technology University

Whatsoever motivational factor initiates you to pursue your own business, two wide areas of know-how would be helpful: understanding the basics of business undertaking, and understanding the entrepreneurial phases. The first part (consisting of the first three chapters) helps you clear the fundamental concepts of business undertaking. The second part (chapter 4- Chapter 7) lets you familiar with the phases you would pass through -not necessarily in sequential progress- in establishing, managing and running your business, from idea conception to ending your business.

The course will not provide you a body of science which you should adhere to. It rather provides a blueprint soft science, which can be edited, modified, changed, and creatively destroyed.
Course Objectives:
After completing this course, students will be able to:

- Comprehend the nature, elements and misconceptions of entrepreneurship
- Outline the rewards and challenges associated with pursuing entrepreneurial endeavor.
- Explain the nature, economical contributions and problems of small businesses
- Describe alternative methods for identifying and evaluating business ideas/opportunities and the factors that support and inhibit creativity.
- Prepare comprehensive a new/existing venture business plan.
- Describe entrepreneurial activities, decisions and challenges related to the management of growth and decline (downturn).
- Discuss the potential alternative ways to go out from a business

At all universities studied, students, lecturers and also the leadership are critical about the courses on entrepreneurship. The bottom line is that all informants are of the opinion that the course in the current form is not suited for creating more entrepreneurial graduates. The majority of students approach the course just as any other course they need to pass in order to get graduated. An example is the Business Plan assignment in the course in which many students do not seriously develop a plan with assistance by lecturers.

Many students do however see the need to develop their entrepreneurial skills and learn how to create their own job. The study reveals a wide-spread interest among the students for the topic but the enthusiasm seems to vary across departments. All students it needs to be delivered in a different way. Suggestions made to improve the current education program are:

- More practical in content, away from the current theoretical orientation
- More practical in delivery
- Involve entrepreneurs in the delivery
- Offer facilities where entrepreneurial issues are practiced
- Move the course to earlier in the study program and/or offer more courses on entrepreneurship as of the first year
- Offer entrepreneurship education to all students of all departments.

Students also suggested that an entrepreneurship awareness course should also be offered at high school.

An initiative is taken by the College of Business and Economics of AAU to start rethinking the entrepreneurship curriculum and courses in the Ethiopian Bachelor programs. It is foreseen to bring together entrepreneurship lecturers from all public universities for a workshop.

Specific comments have been raised by students, but also staff, about the capacity of the lecturers. The need is widely expressed to increase the capacity of staff offering entrepreneurship education. Currently, many of them lack practical experiences and sufficient training on how to provide entrepreneurship education.

A sensitive issue is the importance given to the course by the staff and management of the universities. Critical student remarks have been noted like “the course is just given for the sake of giving the course”. Students also make mention of lecturers that downplay the importance of supportive or common courses like entrepreneurship. This is an indication that the naming of ‘supportive’ or ‘common’ course has its own negative impact. Examples are given of lecturers not coming to class, demonstrating no commitment. A heavy teaching overload is sometimes mentioned as mitigating circumstance. Only at Management Departments, the course is given as a ‘Major’ course.

Private universities

At the private Unity University the situation is comparable with also one entrepreneurship course offered in the final year of the study program and students and staff giving comparable comments as in the public universities. The view was raised to link in the curriculum entrepreneurship with innovation, going beyond a focus on business start-ups. A difference is that faculty gives examples of entrepreneurial teaching and entrepreneurship-related topics covered in other courses. Mentioned are courses on Global Marketing within the MBA in which notions of entrepreneurial behavior and experience oriented learning are covered in an integrated manner. Topics covered are: Expansion of businesses; Entrepreneurial experience, start-ups, pro-activeness; foreign market entry; International entrepreneurship.

MSc and PhD

In Ethiopia, only Mekelle University is offering entrepreneurship education on Master level, as specialization in the Master of Business Administration. A PhD program with an explicit entrepreneurship focus does not exist. The College of Business and Economics at AAU is in process of developing a Double Degree Master program on Innovation Management and Entrepreneurship with the University of Applied Science, Mainz Germany.

The survey results on 'Education programs' are listed in table 15 based on three statements. The scores are more positive than expected based on the information obtained in the interviews and focus group discussions.

Table 15. Aggregated survey results on 'Education programs'

	Adama ST	AAU	Aksum	Dire D.	Jimma	Mizan-T.	Unity	Wollega	Wollo	All
N:	*25*	*14*	*23*	*30*	*27*	*15*	*24*	*27*	*21*	*206*
3. Teaching & Learning										
Education programs	3.26	2.26	3.50	2.75	3.30	2.47	3.26	3.74	3.42	*3.11*

	Leadership	Faculty & Staff	Students	External Stakeholders	All, weigthed
N:	*19*	*67*	*76*	*44*	206
3. Teaching & Learning					
Education programs	3.46	2.93	3.08	3.43	3.14

Teaching methods

The concept of enterprising education teaching methods is fairly new in Ethiopia, hence it is not widely practiced. The dominant methodologies used in teaching entrepreneurship are lecturing accompanied by group business plan writing. Self-reading assignments, group work and peer learning are also part of the methodology. No frequent review of the effectiveness of the teaching methods is made to develop a plan to formulate improved methodology. Students also confirmed that lecturing is the dominant way of delivery up to 70 to 75 percent.

Some examples have been found of more experiential and entrepreneurial teaching methods, indicating that lecturers are trying to make changes given the limited opportunities and capacities at hand. All these individual lecturers have been capacitated to use other, more interactive teaching methods which has direct effect on their performance in the class room.

Box 5. Examples of entrepreneurial teaching methods

At the College of Business and Economics of AAU, a loan of 4000 birr is provided for the full class as part of a business creation assignment. In this way, the students get a real experience. Also CoBE offers guest lecturers by entrepreneurs: the example of Heineken is mentioned in the framework of marketing and branding. Students are also tasked to go to micro and small enterprises (graduates as well as undergraduate students) to develop strategies for them. At Mizan-Tepi University the lecturers, on their own initiative, brought an entrepreneur into the class for the students to experience real business. In addition, within the context of the group assignment to develop a business plan, a lecturer has granted three groups 500 Birr out of his own pocket. Although a small amount, it is a sign of entrepreneurial behavior and risk taking by the lecturer. At Wollo University, a lecturer developed and started to implement a business creation exercise. It is a practical way of teaching students to become entrepreneurs by engaging them in activities that entrepreneurs are really doing. Accordingly, students are expected to establish an informal but real business that produces, merchandizes or provides services.

The students will be asked to keep records of all financial transactions of their business and prepare an income statement at the end of the semester indicating their profit and loss. They are also expected to report the challenges they have faced and how they have managed to deal with the challenges. The approach was well received by the students.

At Unity University, a lecturer in Global Marketing stated: "I try to encourage my students to become more entrepreneurial because there are so many opportunities, but the outcome has not been that great. I do this among others with case studies and story-telling. One student indeed started his own business."

In several public universities, staff and leadership indicate that it should be the role of the new Entrepreneurship Development Centers (just being set-up at the time of this study) to capacitate and guide staff to improve the delivery of entrepreneurship education.

Worthwhile mentioning is the line of thinking at AAiT which is to introduce the EARTH concept at AAiT, a private university in Costa Rica well known for its entrepreneurial curriculum integrated during the full undergraduate program (see http://www.earth.ac.cr/en). The current reality at AAiT is however different. When asking students about the number of guest lectures, they had to think very hard and came up with maximum one per year (a guest lecture on business communication in year 1 and a guest lecture on marketing in year 3 were mentioned).

The College of Technology of Unity University seems to have a more entrepreneurial curriculum and teaching methods than other colleges within the same university but also than within the public universities assessed. According to the Acting Dean, the College of Technology is offering highly practice oriented project-based curricula with real-live projects in almost all courses. Year 4 (of 5) entails one semester internship. Most of the instructors have prior working experience in the sector. Second year students of the College of Technology (around 100 students annually) have to make visits to a company or institute to experience the sector. Visits have been made to the Ministry of Trade, Chamber of commerce, a leather and a textile institute. Although the curriculum of the College of Technology does not include a specific course on entrepreneurship, it entails four courses that are related to setting up a business, but named differently. At the end of study, graduates are supposed to be aware how to run a business and apparently many graduates are running their own business.
Relevant in this context is that Unity University has organized in 2013 a workshop on interactive teaching methods in which around 40 staff members participated from different colleges. 25 different methods were discussed, leading to "considerable changes" (not further specified). In addition, the new knowledge gained has been disseminated to another 30 staff members.

The survey results on 'Teaching methods' are listed in table 16 based on the answers of 15 statements.

Table 16. Aggregated survey results on 'Teaching methods'

	Adama ST	AAU	Aksum	Dire D.	Jimma	Mizan-T.	Unity	Wollega	Wollo	All
N:	*25*	*14*	*23*	*30*	*27*	*15*	*24*	*27*	*21*	*206*
3. Teaching & Learning										
Teaching methods	3.11	2.69	3.19	2.80	3.20	2.95	3.28	3.43	3.12	*3.09*

	Leadership	Faculty & Staff	Students	External Stakeholders	All, weigthed
N:	*19*	*67*	*76*	*44*	206
3. Teaching & Learning					
Teaching methods	3.15	3.04	3.12	3.12	3.10

Research on entrepreneurship
Given the recent attention for entrepreneurship in combination with the limited research capacity and experience at Ethiopian universities, hardly any research on entrepreneurship has been carried out. Exceptions are found at Wollo University (one article on entrepreneurship published), at Dire Dawa University (research currently carried out) and at the College of Business and Economics of AAU. At the latter, research on entrepreneurship is carried and in 2014 the annual Inter Management Research Conference was focused on entrepreneurship.
In general there is little experience and expertise on using knowledge obtained in research for educational purposes.

The survey results on 'Research' are listed in table 17 based on the answers on three statements.

Table 17. Aggregated survey results on 'Research'

	Adama ST	AAU	Aksum	Dire D.	Jimma	Mizan-T.	Unity	Wollega	Wollo	All
N:	*25*	*14*	*23*	*30*	*27*	*15*	*24*	*27*	*21*	*206*
3. Teaching & Learning										
Research	3.35	2.98	3.80	2.60	3.66	2.86	3.40	3.40	3.51	*3.28*

	Leadership	Faculty & Staff	Students	External Stakeholders	All, weigthed
N:	*19*	*67*	*76*	*44*	206
3. Teaching & Learning					
Research	3.81	3.28	3.13	-	3.27

4.4. Pathways for Entrepreneurs

The study assessed factors which relate to which support is offered by the university to students and staff in their career development (as 'intrapraneurs') or on their pathway to becoming an entrepreneur. The factors that have been studied are awareness raising of the value/importance of developing entrepreneurial abilities amongst staff and students, business development support, access to finance, and facilities.

Awareness raising on entrepreneurial abilities
Awareness raising activities targeting students and graduates are starting up at many public universities. This is the result of larger attention by university management, federal government initiatives and cooperation with the 2014 founded Entrepreneurship Development Center in Addis Ababa that helps in building up internal capacities (see 4.1). Currently, initiatives are still stand-alone activities and not part of a more comprehensive strategy and approach.

At many universities a two to five days employability and entrepreneurship orientation program is offered at the end of Bachelor study to all (or many) graduates, just before graduation. Presentations of successful local entrepreneurs are an integral part of this program. In several universities, this program was offered in June 2014 for the first time as direct result of a Training of Trainers offered by the Education Strategy Center within the framework of the University Leadership and Management Capacity Development Program. In other universities (or similar universities but other departments), the program was the result of cooperation with the Entrepreneurship Development Center in Addis Ababa.

Universities have the intention to organize this orientation program again in 2015 but in some cases differently. For instance at Aksum University, instead of during four days only, it is the intention to offer the program during weekend and the semester break over a period of three months during the last semester, and to smaller groups. Student participation is assured because the program will be compulsory. This will however require more staff to be trained.
Comments are also raised to offer such a program to students upon joining the university instead of just before graduation.

Other initiatives mentioned are so-called inspirational days for all graduating students, a one day event during which businessmen have been presenting their work experience, an event at AAiT focusing on female entrepreneurs, and an entrepreneurships week (in 2013) and entrepreneurship Olympiad (in 2014) at Dire Dawa University.

Staff
The universities assessed have no systematic approach to strengthen entrepreneurial awareness among staff. Reasons given are that university leadership is partly not aware of the importance of entrepreneurship and partly because the university leadership does not think that faculty has the right to be engaged in entrepreneurial activities while also working for the university. In this context, the initiative of the Management Department at Dire Dawa University can be mentioned. They recognized lack of awareness in the university communities including the top management and are planning to give internal training.

Private Universities
At Unity University no specific entrepreneurship awareness program is organized nor foreseen. The university is offering students a labor market orientation program with informal sessions, among which with entrepreneurs. According to staff, the subject of entrepreneurship is addressed, and the message to strengthen entrepreneurship values is conveyed to students.

The survey results on 'Awareness programs' are listed in table 18 (based on three statements), more positive than expected given that hardly any activities are taking place.

Table 18. Aggregated survey results on 'Awareness programs'

	Adama ST	AAU	Aksum	Dire D.	Jimma	Mizan-T.	Unity	Wollega	Wollo	All
N:	*25*	*14*	*23*	*30*	*27*	*15*	*24*	*27*	*21*	*206*
4. Pathway for Entrepreneurs										
Awareness programs	3.59	3.05	3.19	2.89	3.34	2.63	3.22	3.39	3.71	*3.22*

	Leadership	Faculty & Staff	Students	External Stakeholders	All, weigthed
N:	*19*	*67*	*76*	*44*	206
4. Pathway for Entrepreneurs					
Awareness programs	3.22	2.81	3.44	3.47	3.22

Business Development Support
In general, university leadership is in favor of supporting students to start-up a business though this is still hardly practiced. Reference is made to the new Entrepreneurship Development Centers that are business development support program that covers all the phases of the business cycle (awareness, start-up, sustaining and growth, exit).

Evidence has been found at some universities in which student groups who wanted to set-up a micro business on campus got ad-hoc support through advice, giving discounted access to facilities, and a bank guarantee. At other universities such requests for support have been declined.

Box 6. On-campus student micro businesses at Aksum University

At Aksum University, five groups of students have been supported in writing a business proposal for on-campus businesses, liaising with the MSE office in town (Micro and Small Enterprises). After registration at the MSE office, this office provided a loan. The university took care of the guarantee for the loan. The students started their business (a cafeteria) on campus and the university provided a place against low cost (rent, but no charges for electricity and water). The concept is that after a few years the business will have to be taken over by new fresh graduates so new people can experience doing a business. It is assumed that in these few years the young businessmen/women have earned enough money and got enough experience to start-up a new business outside campus. Thus, this is mainly about facilitating a learning experience of students, not so much about setting-up university spin-offs.

AAiT is trying to incorporate entrepreneurship in the full curriculum, but the challenge is how. The AAiT leadership would like 10 percent of the students to be able to incubate their own ideas. Recently, a three 3 days exposition of student ideas and inventions have been organized by AAiT with positive feedback from external and internal stakeholders.

Wollega University is the only university assessed to have a female graduate entrepreneurship program.

Box 7. Female Graduate Entrepreneurship Program at Wollega University

Wollega University recently launched a female graduate entrepreneurship development program. The intention of the program is to support female prospective graduates of the university who are interested in setting up on campus business. The university organized special training on business plan writing and assigned mentors for the female prospective graduates. It is also planning to provide financial support, coaching, and work places for female graduates who can come up with feasible business proposals. The university has already allocated Br. 600,000 (a revolving fund) for the program in the budget year 2014/2015.

Aksum University wants to start as soon as possible with a Business Plan Competition, which is also mentioned as an idea by students and staff of Dire Dawa University. Apparently, such a completion has been also held at Adama Science and Technology University two years ago, but no follow-up had been given.

A critical remark received during this study is worthwhile mentioning, stating that it is difficult to expect students to become entrepreneurs with the practice of forcing students to join departments they do not like.

The survey results on 'Business Development Support' are listed in table 19, based on the answers on nine statements. Given that hardly any activities are taking place, the low scores from Dire Dawa University and Mizan-Tepi University would be expected at all the universities studied.

Table 19. Aggregated survey results on 'Business Development Support'

	Adama ST	AAU	Aksum	Dire D.	Jimma	Mizan-T.	Unity	Wollega	Wollo	All
N:	*25*	*14*	*23*	*30*	*27*	*15*	*24*	*27*	*21*	*206*
4. Pathway for Entrepreneurs										
BDS	3.12	2.70	3.20	2.34	3.05	2.33	2.86	3.22	2.83	*2.85*

	Leadership	Faculty & Staff	Students	External Stakeholders	All, weigthed
N:	*19*	*67*	*76*	*44*	206
4. Pathway for Entrepreneurs					
BDS	2.95	2.63	2.96	3.05	2.87

Access to finance

Access to start-up and operating capital is often very difficult to obtain and tied to the ability to provide collateral and prove creditworthiness. In the case of operating capital, the funding requirements are often underestimated and tend to put pressure on ability to get the product into the market.

In general, universities are not offering a helping hand in this respect. Relations with financial institutions are weak or absent.

The survey results on 'Access to finance' are listed in table 20 (one statement). The low scores reflect the limited support given by the universities to facilitate the access to finance. Staff is the most critical.

Table 20. Aggregated survey results on 'Access to finance'

	Adama ST	AAU	Aksum	Dire D.	Jimma	Mizan-T.	Unity	Wollega	Wollo	All
N:	*25*	*14*	*23*	*30*	*27*	*15*	*24*	*27*	*21*	*206*
4. Pathway for Entrepreneurs										
Access to finance	2.84	2.00	3.19	2.30	3.02	2.07	2.54	2.85	2.25	*2.56*

	Leadership	Faculty & Staff	Students	External Stakeholders	All, weigthed
N:	*19*	*67*	*76*	*44*	206
4. Pathway for Entrepreneurs					
Access to finance	3.19	2.19	2.69	2.82	2.60

At Aksum University, some pilots have been performed in anticipation of a business development support strategy of the university. Potential entrepreneurs have been linked with the MSE office in Aksum (which can offer a loan), a bank guarantee has been given for, and cheap facilities offered for on-campus student/alumni businesses. This is also the case at Jimma University which even has a revolving fund for stimulating start-ups by female entrepreneurs. At Adama Science and Technology University, supporting access to finance is mentioned as one of the foreseen instruments to be offered by the new Entrepreneurship Development Center.

Box 8. Revolving fund at St Mary University

At St Mary University, a private university, the university has introduced around four years ago a revolving fund to facilitate students who want to start-up a business. Annually, the winners of a business plan competition get rewarded with 40,000 Birr. Of this amount, 25% is a grant and the remaining 75% needs to be repaid (soft loan). Over the last four years, annually two winners have been granted, cumulating to an amount of 320,000 Birr of which only 80,000 Birr comprises of grants.

Facilities
Some facilities exist, but hardly operational, see table 4 above. The universities studied have facilities for business support, like an Entrepreneurship Center, an incubation center or business park. Reference is made to the new Entrepreneurship Development Centers that are foreseen to take up this role.

4.5. Cooperation with external stakeholders

The study assessed factors which relate to relationships with key partners and collaborators. Building and sustaining relationships with external stakeholders is essential in achieving the full potential of a higher education institution, in entrepreneurship, in research, teaching and in community outreach. The factors that have been studied are the level and structure of cooperation, the level of recognition of external stakeholders in education and research, existence of joint business undertakings, and internships.

Level and structure of cooperation
The findings give a mixed picture of the level in which universities are engaged with external stakeholders. At Jimma, reference is made to signed partnership with close to 70 international and local organization, majority of which are educational institutions, whilst younger universities in particular have hardly any structural partnerships.
In general, formal and organized cooperation with private sector is limited. Cooperation is mainly with governmental institutions and government owned businesses. This is supported by the findings of a recent survey of university-industry linkages in the oldest and well-established universities (Addis Ababa University, Bahir Dar University and Adama Science and Technology University) that found weak functional relationship between them. Technology transfer, economic transfer and knowledge transfer rated the least in this research (Fetene, 2014).

Staff at Adama Science and Technology University make mention of encouraging relationships between the university and the private sector in which the university established strong partnerships with private and government owed business organizations. They give the example of consultancy support that the university provided to business organizations. External stakeholders of the same university express themselves more critically, questioning the commitment of the university leadership to really build up partnerships. This criticism has been also expressed by stakeholders of several other universities studied.

Internal coordination of cooperation with external partners is in most cases by the President's office and/or the External Relation, Alumni, and International Affairs Directorate. Information on partnerships, including objectives, activities, progress, lessons learnt, are not easily to be obtained.

Stakeholders believe that opportunities for cooperation with the universities are not exploited because of some challenges that hinder the integration of the university and external stakeholders. Mentioned are:

- Lack of readiness from the side of the university to engage stakeholders, especially the private sector;
- Lack of effective staff incentives mechanisms;
- Lack of interest, awareness and initiative from university management but also within the business community on the opportunities of cooperation;

- Lack of trust on the expertise and knowledge of the university from the business community;
- Reluctance of stakeholders to come to the university when they are invited;
- Reluctance of stakeholders to support students in internship and research work
- Mismatch in perception of pricing of university services: stakeholders expect low prices because of the community service obligation of the universities.

Having said this, stakeholders are of the opinion that private sector's expertise can be utilized in the entrepreneurial agenda of university. In order to materialize this, many suggestions are made:

- Building a sense of team sprit among university management and external stakeholders;
- Creating close relationship by knocking on the university doors frequently rather than waiting for them to come;
- Working together with the university in research, training, technology transfer, and consultancy areas. Concrete ideas given are to work with the university on value chain upgrading (in the framework of creating job opportunities) and feasibility studies which help investors to take informed decisions;
- Create awareness among the university community on the importance of the private sector;
- To support students with meaningful and practice oriented entrepreneurship education (internship, inviting skilled manpower from the industry) that can help them set up their enterprises after graduation;
- To use the university market potential for SMEs owned by young entrepreneurs;
- To use the university expertise to develop standards for locally innovated products and technologies;
- Inviting experts from university to give advanced training for vocational school graduates and business people;
- To scout university bids and get benefit out of it for alumni entrepreneurs;
- In collaboration with the university, link good graduates / students with successful entrepreneurs for employment, internship, consultancy or research
- To use student expertise as a junior consultant for solving business related problems of entrepreneurs like business development, accounting, marketing, technology usage, efficiency, etc.;
- To use the university as scholarship opportunity for company owners;
- To seek for meaningful use of underutilized university resources for the benefit of graduates and the local community, if possible with involvement of entrepreneurial student, graduates and local businesses.

The survey results on 'Level and structure of cooperation' are listed in table 21, measured with five statements. The leadership is the most positive. The score of Aksum University is considerable higher than the scores of the other universities.

Table 21. Aggregated survey results on 'Level and structure of cooperation'

	Adama ST	AAU	Aksum	Dire D.	Jimma	Mizan-T.	Unity	Wollega	Wollo	All
N:	*25*	*14*	*23*	*30*	*27*	*15*	*24*	*27*	*21*	*206*
5. Cooperation with stakeholders										
Level and structure	3.17	2.48	3.26	2.39	2.85	2.27	2.80	3.03	2.84	*2.79*

	Leadership	Faculty & Staff	Students	External Stakeholders	All, weigthed
N:	*19*	*67*	*76*	*44*	206
5. Cooperation with stakeholders					
Level and structure	3.58	2.85	2.49	3.08	2.83

Recognition of external stakeholders

An institutional approach for involving external stakeholders in education and research at Ethiopian universities seems absent. Hardly any cross-fertilization seems to take place between the world of practitioners and academia in favor of a more entrepreneurial way of teaching, of a stronger market orientation in education and research. Guest lectures are rarely happening, no professorships are offered to external experts, and external stakeholders are not allowed to use university facilities and services.

Different information is found at Jimma University in which the university has undertaken several research projects and run several educational programs in collaboration with external stakeholders. However, the partnership between the university and external stakeholders, most importantly with the private sector in promoting entrepreneurship is weak. Accordingly, student's practical exposure in the private sector is very limited. The university neither has a feasible strategy to work with the private sector in order to stimulate entrepreneurship. External stakeholders, most importantly, players in the private sector believe that the university is not well prepared to work with them.

The survey results on 'Recognition' are listed in table 22 which is measured by one statement.

Table 22. Aggregated survey results on 'Recognition'

	Adama ST	AAU	Aksum	Dire D.	Jimma	Mizan-T.	Unity	Wollega	Wollo	All
N:	*25*	*14*	*23*	*30*	*27*	*15*	*24*	*27*	*21*	*206*
5. Cooperation with stakeholders										
Recognition	3.60	3.50	3.83	2.90	3.66	2.84	3.66	3.56	3.33	*3.43*

	Leadership	Faculty & Staff	Students	External Stakeholders	All, weigthed
N:	*19*	*67*	*76*	*44*	206
5. Cooperation with stakeholders					
Recognition	3.54	3.40	3.31	3.85	3.47

Enterprising

From the information obtained, there is no evidence to suggest that the Ethiopian universities have a partnership arrangement with an external company aimed at jointly undertaking business as part of its income generating strategy, except with the case of Jimma University which has an experience of working with the private sector (see Box 9). If business activities exist (like a guest house or hotel), they are 100 percent university initiatives. In general, the universities are not stimulating business activity in the proximity of or on campus, other than a few student start-ups.

Box 9. Partnership between Jimma University and ABH Services PLC.

Since 2013, Jimma University has launched graduate studies in Master of Public Health (MPH) and Master of Business Administration (MBA) in Addis Ababa in collaboration with ABH Services PLC. The partnering institutions share costs as well as revenues. The partnership demonstrates an example of collaboration between university and the private sector in joint business venture.

The survey results on 'Enterprising' are listed in table 23 which is measured by one statement.

Table 23. Aggregated survey results on 'Enterprising'

	Adama ST	AAU	Aksum	Dire D.	Jimma	Mizan-T.	Unity	Wollega	Wollo	All
N:	*25*	*14*	*23*	*30*	*27*	*15*	*24*	*27*	*21*	*206*
5. Cooperation with stakeholders										
Enterprising	2.84	2.43	3.13	2.20	2.82	2.00	2.88	3.33	2.48	*2.68*

	Leadership	Faculty & Staff	Students	External Stakeholders	All, weigthed
N:	*19*	*67*	*76*	*44*	206
5. Cooperation with stakeholders					
Enterprising	2.29	2.26	2.28	2.46	2.31

Internships

Internships of four to six months are integral part of the curriculum of many departments, in particular in engineering, and health. The main intention of the program is not to enhance entrepreneurial behavior of students but to enable students to gain exposure to the real working environment for their future career and to have practical exposure on how certain production or service rendering activities are provided. Information obtained demonstrates that the practice of internships is often problematic, seemingly underestimated and not well organized. A long list of critical comments have been noted, from students, staff, and external stakeholders:

- Lack of cooperation and interest from stakeholders: industry is often not interested because they see an internship as a burden instead of a contribution to the development of youth and a way to select new staff;
- Most of the internship organizations are not committed to give the required work for students because of the perception that the students cannot perform the task;
- Students get little guidance at the internship organization;
- Unfair, subjective evaluation of students by the internship organization and staff, instead of merit based evaluation;
- Students are afraid to make mistakes because that may have negative repercussions. Whilst an internship is also meant for students to experience work in a safe setting in which they are allowed to make mistakes. Learning from mistakes make students become more confident and more useful for the labor market;
- Lack of follow-up and supervision by the university during and after the internship: there is no control of students neither incentives for students attending internship regularly and seriously;
- Improper placement of students: in many cases students themselves select the organization, often based on presence of a relative, convenience and other safety reasons at the expense of the purpose;
- Most of the time students are assigned to public organizations, not in the business sector;
- Lack of timely internships and inadequate number of days for internship: stakeholders complain that students are doing their internship before they have the required knowledge.

Based on the information received from external stakeholders, students have very little, beyond the internship opportunity, of experiencing business during their study. Exceptions are found at Jimma University, see box 10.

Concrete examples are mentioned of mismatches between the labour market needs and the capacities of graduates. For example, a banker stated that graduates had little idea of working practice, for instance missed any experience in book keeping. Thus, training is currently needed on the job, after graduation. He is of the opinion that the bank can be of help during study: students can

come to the bank to explore working practice, and support can be given in development of business plans.

Box 10. Community Based Education (CBE) strategies of Jimma University

There are two main programs designed to implement community based education in Jimma University: Team Training Program (TTP) and Community Based Education Program (CBTP). TTP is a program in which students in the final year from different hegemonies are posted as a team in one of the nearby Training Health Centers (each team aims consists of 10-14 students). The program aims to enable the students to apply the knowledge and skills of their profession integrating these with the knowledge and skills of their team members and of service personnel and to give them a chance to learn through hands-on experience and unreal life situations. A similar program involving students from the Colleges of Agriculture, Business and Economics, Technology, and Law is known as Departmental Team Training Program (DTTP).
CBTP is an integrated institutional program which runs in phases from first year to graduation along with an in-built regular follow -up program. Each phase has specifically defined educational objectives. During each phase students as a group (10-12 students) are assigned to urban, semi-urban or rural communities to make a community diagnosis and draw an action plan which would enable students to suggest appropriate intervention measures; to organize interventions utilizing the concept components and strategies of community participation and multi-sectorial approach; and to plan and conduct problem oriented research.

4.6. Internationalization

The study assessed factors which relate to internationalization. In an internationalized economy and academic environment, the authors of the Entrepreneurial University framework pose that it is not possible for a higher education institution to be entrepreneurial without being international. The factors that have been studied are strategic embedment, international student- and staff mobility, and participation in international networks.

Strategic embedment
Internationalization is embedded in the strategic plans of the public universities as an important pillar for improvement of the academic quality, research, standing, network, and resource base of the university. At the private Unity University such a strategy seems not to exist.

Too little information is obtained in this study to fully assess the results of these strategies. But it becomes clear that internationalization at the older universities studied is stronger than at the younger generation universities. These universities are still building up their capacities and seem less ready for engaging in international partnership for student exchange, academic research or joint business-oriented undertakings.

International student- and staff mobility
A large proportion of Ethiopian scholars are pursuing an MSc or PhD abroad, building-up an international network. With the financial support of the Ethiopian government and donors, foreigners are recruited to work at Ethiopian universities. In particular South Korean expatriates are working in academic leadership positions at Institutes of Technology. Indian lecturers are working in more junior positions.
In most of the universities, staff mobility is through personal initiatives.

Student exchange programs of Ethiopian students going abroad are hardly in place, sometimes integrated in a donor funded project. A positive exception seems to be at Adama University of

Science and Technology, see the box below. From the universities assessed, Jimma University is active in attracting international students.

Box 11. Student Exchange at Adama University of Science and Technology (ASTU)

Apart from engaging graduating students from Engineering disciplines in local companies for internship, the Adama University of Science and Technology also gives opportunity for selected students from the same discipline to get exposure in foreign companies. So far, 20 students from the departments of Civil Engineering, Mechanical Engineering, Chemical Engineering, and Computing have been assigned to companies in Qatar and South Korea for internship. 10 of the students were assigned to Hyundai company in Qatar while the rest were assigned at POSTECH company in South Korea. The program has exposed the students not only to practical experiences of international organizations but also to a multicultural working environment.

The survey results on 'Student and staff mobility' are listed in table 24 with in particular a high score by the university leadership. The values are based on the answers on two statements.

Table 24. Aggregated survey results on 'Student and staff mobility'

	Adama ST	AAU	Aksum	Dire D.	Jimma	Mizan-T.	Unity	Wollega	Wollo	All
N:	*25*	*14*	*23*	*30*	*27*	*15*	*24*	*27*	*21*	*206*
6. Internationalization										
Staff & student mobility	3.56	3.04	3.00	2.50	3.16	2.46	2.85	3.52	2.76	*2.98*

	Leadership	Faculty & Staff	Students	External Stakeholders	All, weigthed
N:	*19*	*67*	*76*	*44*	206
6. Internationalization					
Staff & student mobility	3.75	2.86	2.95	-	3.00

International networks

Ethiopian universities are starting to become more involved in international networks, in first instance often through donor funded projects. AAU as the oldest university of the country has ample international relations through donor-funded projects and academic networking. A case in point is that Samsung officially started in 2013 with an Engineering Academy within the Addis Ababa Institute of Technology (AAiT) with a first class of 60 students drawn from AAiT.

The survey results on 'International networks' are listed in table 25 (one statement).

Table 25. Aggregated survey results on 'International networks'

	Adama ST	AAU	Aksum	Dire D.	Jimma	Mizan-T.	Unity	Wollega	Wollo	All
N:	*25*	*14*	*23*	*30*	*27*	*15*	*24*	*27*	*21*	*206*
6. Internationalization										
Networking	3.47	3.06	2.76	2.38	3.16	2.25	2.55	3.14	2.76	*2.84*

	Leadership	Faculty & Staff	Students	External Stakeholders	All, weigthed
N:	*19*	*67*	*76*	*44*	206
6. Internationalization					
Networking	3.19	2.81	2.82	-	2.86

4.7. Impact measurement

The final category of the research framework has to do with impact measurement: what is the university undertaking to measure the results of its entrepreneurial activities?

In general, impact measurement in higher education is underdeveloped. The majority of the measurements found in the literature relate to spin-offs, Intellectual Property (IP) and research outcomes rather than graduate entrepreneurship, retaining talent, local economic development or the impacts of the broader entrepreneurial strategy.

The findings of this study in nine universities in Ethiopia are straightforward: no data are yet available, neither a system for collecting data on the results of entrepreneurial activities. Ethiopian higher education is at the start of measuring the outcomes and impact of its activities. Related to entrepreneurship education, no tracer studies are being done or yet developed. Information is lacking on the position of its alumni. Sex-segregated data are absent that can be used as baseline in strategy development, for instance on the level of unemployment after six months of graduation or the percentage of graduates that started a business.

Some initiatives are noted of universities that are planning to develop tracer studies and impact measurements of business awareness programs to become a task for the new Entrepreneurship Development Centers or foreseen alumni centers. Of the universities assessed, only at Jimma University once a tracer study has been carried out and at Wollega University a first tracer study is being carried out in the current academic year.

The aggregated results of the survey are listed in table 26, based on the answers on five statements. Compared to the results of the other six dimensions of the framework, the results are more negative, reflecting the qualitative findings.

Table 26. Aggregated survey results on 'Impact measurement'

	Adama ST	AAU	Aksum	Dire D.	Jimma	Mizan-T.	Unity	Wolega	Wollo	All
N:	*25*	*14*	*23*	*30*	*27*	*15*	*24*	*27*	*21*	*206*
Impact measurement	2.78	2.74	2.75	1.95	2.58	2.02	2.46	2.82	2.21	*2.48*

	Leadership	Faculty & Staff	Students	External Stakeholders	All, weighted
N:	*19*	*67*	*76*	*44*	206
Impact measurement	2.63	2.30	2.57	-	*2.47*

4.8. Statistical analyses

In the previous part of this chapter, quantitative survey results per variable are presented besides the qualitative information obtained in interviews and focus group discussions. The total overview of the survey results are presented here below. Results are indicating views per university or per group

of respondents with a total number of 206 respondents divided over four categories (leadership, staff, students, and external stakeholders). The number per category per university is too small for making a statistical analysis on that level. The values indicate the views of the respondents on the level of entrepreneurial university with values between 1 and 5, with 1 indicating total disagreement, and 5 indicating total agreement of statements.

The results per university as presented in table 27 indicate that the respondents at Aksum University give the most positive self-assessment (3.30) in comparison to the other eight universities whilst the respondents at Dire Dawa University and Mizan-Tepi University are the most critical (2.41 and 2.50 respectively). This coincides with qualitative information of positive entrepreneurial developments and activities at Aksum University, and the absence of these at Dire Dawa University and Mizan-Tepi University.

Table 27. Results per category of the Entrepreneurial University framework per university

	Adama ST	AAU	Aksum	Dire D.	Jimma	Mizan-T.	Unity	Wolega	Wollo	All
N:	*25*	*14*	*23*	*30*	*27*	*15*	*24*	*27*	*21*	*206*
Leadership & Governance	3.09	2.93	3.85	2.51	3.07	3.03	3.00	3.25	3.05	*3.09*
Organizational capacity	3.47	2.97	3.63	2.58	3.29	2.62	3.69	3.74	3.10	*3.23*
Teaching & Learning	2.76	2.57	3.40	2.45	2.97	2.64	3.17	3.19	2.93	*2.90*
Pathway for Entrepreneurs	3.16	2.70	3.20	2.47	3.11	2.43	2.98	3.23	2.97	*2.92*
Cooperation with stakeholders	3.19	2.72	3.36	2.48	3.12	2.34	3.03	3.23	2.86	*2.93*
Internationalization	3.52	3.02	2.93	2.46	3.18	2.40	2.46	3.32	2.80	*2.90*
Impact measurement	2.78	2.74	2.75	1.95	2.58	2.02	2.46	2.82	2.21	*2.48*
Mean	3.14	2.81	3.30	2.41	3.05	2.50	2.97	3.25	2.85	*2.92*

When comparing the results between the four groups of respondents (see table 28), the following can be concluded:

- University leadership is the most positive about the entrepreneurial state of the university across all the seven categories of the framework (3.24);
- Staff is the most critical about the core educational process, with a score of 2.08;
- Students are the most positive about Leadership and Governance compared to the other groups of respondents and also compared to their own scoring on the other six categories of the framework (3.28).

Table 28. Results per category of the Entrepreneurial University framework per type of respondents

	Leadership	Faculty & Staff	Students	External Stakeholders	All, weighted
N:	*19*	*67*	*76*	*44*	206
Leadership & Governance	3.18	2.91	3.28	3.06	*3.10*
Organizational capacity	3.47	2.95	3.40	3.35	*3.25*
Teaching & Learning	3.36	2.08	2.96	2.38	*2.59*
Pathway for Entrepreneurs	3.08	2.66	3.04	3.09	*2.93*
Cooperation with stakeholders	3.43	2.92	2.73	3.24	*2.97*
Internationalization	3.56	2.84	2.88	-	*2.94*
Impact measurement	2.63	2.30	2.57	-	*2.47*
Mean	3.24	2.67	2.98	3.02	*2.91*

An overview of the scores of all the variables is presented in table 29 and table 30, respectively divided per university and per category of respondents. Per variable these data are also included in the previous sections of chapter 4. In general the scores are higher would be expected based on the information obtained in interviews and focus group discussions.

Table 29. Results per variable of the Entrepreneurial University framework per university

	Adama ST	AAU	Aksum	Dire D.	Jimma	Mizan-T.	Unity	Wollega	Wollo	All
N:	*25*	*14*	*23*	*30*	*27*	*15*	*24*	*27*	*21*	*206*
1. Leadership & Governance										
Strategy	3.72	3.43	3.48	3.10	3.44	3.27	3.41	3.56	3.63	*3.45*
High-level commitment	3.33	2.33	3.80	3.17	3.08	2.75	3.83	4.00	4.13	*3.38*
Level of autonomy	3.44	2.75	3.51	2.67	3.30	2.58	3.23	3.50	2.94	*3.10*
Internal coordination	3.28	2.67	3.25	3.13	2.79	3.19	3.35	3.83	3.44	*3.21*
Support to regional developm.	3.32	3.00	4.01	2.94	3.43	3.03	3.40	4.14	4.48	*3.53*
2. Organizational capacity										
Internal cooperation	3.47	3.07	3.88	2.90	3.52	2.92	3.96	3.90	3.29	*3.43*
HRM	3.13	1.89	3.35	2.46	2.81	2.53	3.44	3.52	3.29	*2.94*
3. Teaching & Learning										
Student initiatives	3.00	1.86	2.91	2.10	2.62	1.75	2.23	2.92	2.70	*2.45*
Education programs	3.26	2.26	3.50	2.75	3.30	2.47	3.26	3.74	3.42	*3.11*
Teaching methods	3.11	2.69	3.19	2.80	3.20	2.95	3.28	3.43	3.12	*3.09*
Research	3.35	2.98	3.80	2.60	3.66	2.86	3.40	3.40	3.51	*3.28*
4. Pathway for Entrepreneurs										
Awareness programs	3.59	3.05	3.19	2.89	3.34	2.63	3.22	3.39	3.71	*3.22*
BDS	3.12	2.70	3.20	2.34	3.05	2.33	2.86	3.22	2.83	*2.85*
Access to finance	2.84	2.00	3.19	2.30	3.02	2.07	2.54	2.85	2.25	*2.56*
5. Cooperation with stakeholders										
Level and structure	3.17	2.48	3.26	2.39	2.85	2.27	2.80	3.03	2.84	*2.79*
Enterprising	2.84	2.43	3.13	2.20	2.82	2.00	2.88	3.33	2.48	*2.68*
Recognition	3.60	3.50	3.83	2.90	3.66	2.84	3.66	3.56	3.33	*3.43*
6. Internationalization										
Staff & student mobility	3.56	3.04	3.00	2.50	3.16	2.46	2.85	3.52	2.76	*2.98*
Networking	3.47	3.06	2.76	2.38	3.16	2.25	2.55	3.14	2.76	*2.84*
7. Impact measurement										
	2.78	2.74	2.75	1.95	2.58	2.02	2.46	2.82	2.21	*2.48*

Table 30. Results per variable of the Entrepreneurial University framework per type of respondents

	Leadership	Faculty & Staff	Students	External Stakeholders	All, weigthed
N:	*19*	*67*	*76*	*44*	206
1. Leadership & Governance					
Strategy	3.16	3.26	3.41	3.89	3.44
High-level commitment	4.13	3.24	-	-	3.43
Level of autonomy	3.67	2.96	3.00	3.44	3.14
Internal coordination	3.58	3.15	-	-	3.24
Support to regional developm.	3.86	3.50	-	3.50	3.55
2. Organizational capacity					
Internal cooperation	3.79	3.44	3.39	-	3.46
HRM	3.34	2.71	-	3.41	3.04
3. Teaching & Learning					
Student initiatives	2.65	2.31	2.51	-	2.44
Education programs	3.46	2.93	3.08	3.43	3.14
Teaching methods	3.15	3.04	3.12	3.12	3.10
Research	3.81	3.28	3.13	-	3.27
4. Pathway for Entrepreneurs					
Awareness programs	3.22	2.81	3.44	3.47	3.22
BDS	2.95	2.63	2.96	3.05	2.87
Access to finance	3.19	2.19	2.69	2.82	2.60
5. Cooperation with stakeholders					
Level and structure	3.58	2.85	2.49	3.08	2.83
Enterprising	2.29	2.26	2.28	2.46	2.31
Recognition	3.54	3.40	3.31	3.85	3.47
6. Internationalization					
Staff & student mobility	3.75	2.86	2.95	-	3.00
Networking	3.19	2.81	2.82	-	2.86
7. Impact measurement	2.63	2.30	2.57	-	2.47

5. Conclusions

5.1 Leadership and Governance

University strategy
Entrepreneurship education and entrepreneurial activities are at their infant stage at Ethiopian universities.

However, signs of entrepreneurial elements exist in several of the university strategies assessed, of which the most prominent is income generation.

Hardly any relations are made between income generation activities, entrepreneurship awareness raising among students, entrepreneurship education courses, university – industry linkages, and community development. Absence of an entrepreneurial strategy leads to fragmented activities.
Consequently, the intention to become a solid entrepreneurial university is not clearly reflected in the strategy and vision of universities.

Universities are reactive in getting support for strengthening an entrepreneurial agenda from relevant government actors like the Ministry of Finance and Development, Ministry of Education, Ministry of Science and Technology, National Auditor, and Parliament.

High-level commitment
Active engagement of the top-leadership in fostering entrepreneurial activities seem to suggest positive results. It leads to a more open attitude and more support towards student and staff initiatives, new centers being set-up, and enterprise development.

The Board as highest governing body is not pro-active in driving the universities' entrepreneurial agenda but has been supportive of initiatives coming from the top-management of the universities.

Internal coordination and integration
Although an increasing number of Entrepreneurship Development Centers are being set-up, it has been noted that there is neither a university wide internal coordination of entrepreneurship development activities, nor a model for coordinating and integrating entrepreneurial activities. Rules and regulations are absent, or not comprehensive or not always known.

Level of autonomy
Although the Higher Education Proclamation stipulates autonomy for the universities, the level of autonomy of each public university in Ethiopia in practice does not reflect the full spirit of the Proclamation. Rules, regulations and directives that guide actions in support of entrepreneurial activities at different levels of the university are lacking.

As a result, the limited autonomy has not proved conducive in encouraging entrepreneurial attitudes of staff and students like risk taking, pro-activeness, and self-initiative.

However the situation at a private university is different. They are more flexible than public universities in generating income and managing their respective institutions. Concerning the set-up of new Degree Programs, a private university needs however prior approval from HERQA.

Support to regional community development

When it comes to support of regional community development, the picture is mixed with some universities very active, while others are at the start of building up relationships. Nearly all universities allocate large amounts for community outreach but the outcomes fall short of the expectations of external stakeholders. The foregoing problem is partially attributed to lack of effective staff incentives mechanisms.

Regional or zonal platforms in which government institutions, private sector, and the university together structurally partner and implement a shared vision and strategy of regional development are lacking. Most of the universities have a long way to go to be a leading actor in regional development.

Being public universities they are mostly linked up to other governmental institutions, including government-owned enterprises. Limited number of meaningful partnerships exist with key players in the private sector.

Unlike public universities, the private universities are not visibly involved in regional community development programs.

5.2 Organizational capacity

Financial strategy

All public universities in Ethiopia are almost entirely funded by the national Treasury, hence the pressure for generating additional income is still low. Most of the income generated by the universities is from student tuition fees from evening, distance and summer programs, as well as from consultancy services in the case of some universities. However, many of the consultancies are handled by individuals not benefiting the universities.

Income generation through enterprising is still at an initial stage. At this stage many of the enterprises are linked to research and teaching activities, generating income for the institution. In some cases universities have started to establish commercially registered entities.

There are signs that the universities will be required to generate internal resources to partially cover their budgetary requirements. The potential to generate internal revenue through consultancy, research, university – industry linkages are substantial.

The main difference for private universities is that they generate their main income out of tuition fees.

None of the universities assessed have allocated an earmarked budget for entrepreneurship.

Internal cooperation

By and large the universities are strongly mono disciplinary organized in which cooperation among faculties and colleges differ per institute: in most of the universities studied internal cooperation is limited, whilst others show good experiences. It is encouraging to note that cross-disciplinary cooperation in research is stimulated through funding criteria.

Human Resources Management

Entrepreneurship is not mainstreamed in staff development plans, training, recruitment, performance evaluations and reward systems. As a result, entrepreneurial attitudes and experience do not play an explicit role as criteria for recruitment (of faculty and support staff) at public

universities, not even for positions with an explicit entrepreneurial character, like lecturers in entrepreneurship, managers of university enterprises, or university – industry linkage officers.

Reward systems for staff in public universities active in business assignments exist in some (but differ largely) and are lacking in others.

At private universities, working experience in the sector of relevance for the subjects taught is a criterion for recruitment. Many lecturers work part-time besides running a business or otherwise.

It is highly questionable whether the existing working and learning environment on campus is encouraging entrepreneurial attitudes of staff and students like risk taking, pro-activeness, and self-initiative.

5.3 Entrepreneurship Development in Teaching and learning

Academic structures and positions
No senior faculty on entrepreneurship exist in any of the universities studied, neither foreseen. Faculty engaged in entrepreneurship education are by and large more junior lecturers from the Colleges of Business and Economics.

Student initiatives
At the universities there are not yet student organizations that specifically focus on entrepreneurship, like a Student Entrepreneurship Club or Association. In most of the universities studied, students mentioned the lack of funds and support by the university to encourage student start-up projects. It seems that policies and regulations are not clear resulting in different approaches and attitudes from university management and staff towards student initiatives. In several universities the new Entrepreneurship Development Center is seen as the unit that will give support to students with business ideas.

Students are mentioning a serious challenge which is to deal with internal bureaucracy. For them it is not easy to understand the structure of the organization where they have to go for what. It is their experience that staff has the tendency to first deny support and are not so easily willing to cooperate.

Educational programs
In the undergraduate program of the public universities one entrepreneurship course is offered at the last year of the study program. The exact name and number of credits differ per department and university, but on average it is a three credits common course.

The course is part of curricula of most but not necessarily all the departments of the Colleges of Business and Economics and of the Institutes of Technology. In addition, the course is offered at some of the departments in Natural and Computational Science/Informatics, Social Sciences, and Agriculture/Veterinary.

It is believed that the course in the current form is not suited for creating more entrepreneurial graduates. The majority of students approach the course just as any other course they need to pass in order to graduate.

The need to increase the capacity of staff offering entrepreneurship education is stressed. Currently, many of them lack practical experiences and sufficient training on how to provide entrepreneurship education.

The entrepreneurship course is mainly offered as a supportive or common course, downplaying its importance. Examples are given of lecturers not coming to class, demonstrating no commitment.

At the private university included in this study the situation is comparable to the public universities with one entrepreneurship course offered in the final year of the study program.

Teaching methods
The concept of enterprising education teaching methods is fairly new in Ethiopia, hence it is not widely practiced. The dominant methodologies used in teaching entrepreneurship are lecturing accompanied by group business plan writing.

However, there are universities that claim more experiential and entrepreneurial teaching methods. Performing experiential and entrepreneurial teaching methods is mainly individually driven not institutionally driven.

Self-reading assignments, group work and peer learning are also part of the methodology. No frequent review of the effectiveness of the teaching methods is made to develop a plan to formulate improved methodology.

Research on entrepreneurship
Given the recent attention for entrepreneurship in combination with the limited research capacity and experience at Ethiopian universities, limited research on entrepreneurship has been carried out.

In general there is little experience and expertise on using knowledge obtained in research for educational purposes.

5.4 Pathways for Entrepreneurs

Awareness raising on entrepreneurial abilities
At many universities a two to five days employability and entrepreneurship orientation program is offered at the end of Bachelor study to all (or many) graduates, just before graduation. Presentations of successful local entrepreneurs are an integral part of this program.

There is no systematic approach to strengthen entrepreneurial awareness among staff.

At the private university studied no specific entrepreneurship awareness program is organized nor foreseen.

Business Development Support
In general, university leadership is in favor of supporting students to start-up a business and evidence is found of some activities.

In none of the universities studied a comprehensive Business Development Support program exists that covers all the phases of the business cycle (awareness, start-up, sustaining and growth, exit). In several of the universities, the new Entrepreneurship Development Centers are foreseen to take up this role.

Access to finance
In general, universities are not offering a helping hand in accessing start-up and operating capital for students and staff. Relations with financial institutions are weak or absent.

Facilities
Some facilities for Business Development Support exist within universities like an Entrepreneurship Center, an incubation center or business park, but are hardly operational.

Table 31. Entrepreneurship Development within the 9 universities assessed, March 2015

	Curricular	**Non-degree support & training**	**Facilities**	**Events**	**Financial support mechanisms*)**
Awareness creation	Supportive or Common Entrepreneurship course offered in the final year of the study	Employability & Entrepreneurship Orientation program at the end of study, 2 to 5days	Entrepreneurship Development Centres being set-up, not yet operational	1 day orientation day	Not applicable
Strengthening entrepreneurial skills, attitudes and knowledge base	Not offered	Not offered	Entrepreneurship Development Centres being set-up, not yet operational	Not offered	Not applicable
Business development support	Not offered	Not offered / Ad-hoc support to student groups for setting-up petty businesses on campus	Entrepreneurship Development Centres being set-up, not yet operational	Expo at AAiT	Not offered / Guarantee, start-up capital & cheap facilities for petty businesses on campus

**) Like grants, joint venture funding, special loan arrangements, public/private seed capital*

5.5 Cooperation with external stakeholders

Level and structure of cooperation
There is a mixed picture of the level in which universities are engaged with external stakeholders. Older universities have partnership agreements with international and local organizations, majority of which are educational institutions, whilst younger universities have hardly any structured partnerships.

In general, formal and organized cooperation with private sector is limited. Cooperation is mainly with governmental institutions and government owned businesses.

Stakeholders are of the opinion that private sector's expertise can be utilized in the design and implementation of the entrepreneurial agenda of university.

Opportunities for cooperation with the universities are not exploited because of some challenges that hinder the integration of the university and external stakeholders.

Recognition of external stakeholders

An institutional approach for involving external stakeholders in education and research at Ethiopian universities seems absent. Hardly any cross-fertilization seems to take place between the world of practitioners and academia in favor of a more entrepreneurial way of teaching, of a stronger market orientation in education and research. Guest lectures are rarely happening, no professorships are offered to external experts, and external stakeholders are not allowed to use university facilities and services.

External stakeholders, most importantly, players in the private sector believe that the universities are not well prepared to work with them.

Enterprising
As far as information is obtained, almost none of the Ethiopian universities have a partnership with an external company aimed at jointly undertaking business as part of its income generating strategy.

Internships
Internships of four to six months are integral part of the curriculum of many departments, in particular in engineering. In health, students are assigned to hospitals for even a longer period. Information obtained demonstrates that the practice of internships is often problematic, seemingly underestimated and not well organized.

According to external stakeholders, beyond the internship students have very little opportunity of experiencing business during their study.

5.6 Internationalization

Strategic embedment
Internationalization is embedded in the strategic plans of the public universities as an important pillar for improvement of the academic quality, research, standing, network, and resource base of the university. Too little information is obtained in this study to fully assess the results of these strategies. But it becomes clear that internationalization at the older universities studied is stronger than at the younger generation universities.

International student- and staff mobility
A large proportion of Ethiopian scholars are pursuing an MSc or PhD abroad, building-up an international network. In most of the universities, staff mobility is through personal initiatives.

Student exchange programs of Ethiopian students going abroad are hardly in place, sometimes integrated in a donor funded project.

International networks
Ethiopian universities are starting to become more involved in international networks, in first instance often through donor funded projects.

5.7 Impact measurement

In general, impact measurement in higher education is underdeveloped, no data are yet available, neither a system for collecting data on the results of entrepreneurial activities.

Some initiatives are noted of universities that are planning to develop tracer studies and impact measurements of business awareness programs to become a task for the new Entrepreneurship Development Centers or foreseen alumni centers.

5.8 Conclusions beyond university level

An increasing number of initiatives are evolving in support of business development in Ethiopia. However the current environment is not yet conducive for doing business, compared to international standards, and a national entrepreneurship policy that would guide the developments is not yet in place.

A combined effort by key stakeholders in government to promote and support entrepreneurship development and the role of HEI in this development is missing. This are stakeholders such as the Ministry of Finance and Development, Ministry of Education, Ministry of Science and Technology, National Auditor, and Parliament.

Entrepreneurship development at higher education institutions would ideally be based on preparatory programs before entering the universities in which young Ethiopians are already stimulated to develop entrepreneurial attributes. However, up to date, no attention is given to entrepreneurship education during general education which makes the tasks for higher education the more challenging.

Developments in higher education in Ethiopia are going fast with many new universities, young unexperienced faculty and an increasing number of students to cater for. In this context, entrepreneurship education is a new phenomenon. Little opportunities however exist among the institutions and their faculty to share lessons learned.

6. Recommendations

1. Leadership and Governance

University strategy
The university should include an entrepreneurial agenda in its vision, mission and strategy.

Universities need to be pro-active in dealing with key stakeholders of relevance such as the Ministry of Finance and Development, Ministry of Education, National Auditor, Parliament, etc. in popularizing their entrepreneurial agenda.

Universities need to integrate strategically income generation activities, entrepreneurship awareness raising among students, entrepreneurship education courses, university – industry linkages, and community development.

High-level commitment
The top-leadership should actively engage in a sustained way in fostering entrepreneurial activities.

The university Boards should play a significant role in pushing the universities' entrepreneurial agenda.

Internal coordination and integration
The university should enhance and develop a model to strengthen internal coordination of entrepreneurship development activities.

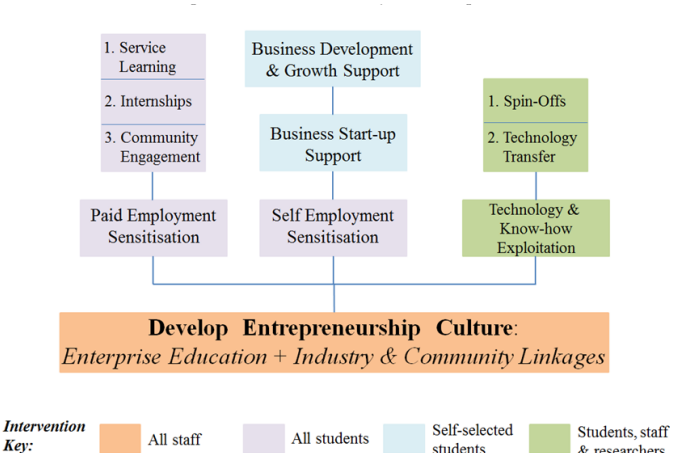

Figure 2. Example of an entrepreneurial university development model. Source: MSM, 2015

Universities should strengthen or create a visible structure for entrepreneurial activities with a formal position and an allocated budget that will allow to act university wide.

There must be rules and regulations and a responsible body to guide and monitor entrepreneurial activities and entrepreneurship education.

Level of autonomy

The autonomy of universities as stipulated in the Higher Education Proclamation should be practiced for the universities to be more entrepreneurial.

The Proclamation needs to be operationalized by rules, regulations and directives that guide actions in support of entrepreneurial activities at different levels of the university.

Support to regional community development
The universities should engage in knowledge-driven result-oriented partnerships with external stakeholders so that the contributions of the university in regional and local development agenda are felt by the community and the region.

Regional or zonal platforms in which government institutions, private sector, and the university together structurally partner and implement a shared vision and strategy of regional development should be developed.

Universities should seek strong collaboration with entrepreneurship development institutions such as EDC-Ethiopia to enhance the quality of their entrepreneurship development initiatives.

More emphasis should be given to partnering with the private sector.

2. Organizational capacity

Financial strategy
The universities should strengthen and institutionalize the efforts to generate internal income through consultancy, contract research, enterprising, fund raising including from alumni, and university – industry linkages.

Universities should allocate earmarked budget for entrepreneurship.

Internal cooperation
The universities should strengthen cross-disciplinary cooperation in entrepreneurial activities in education, research, community service, and enterprising.

Human Resources Management
If universities are to become entrepreneurial, it is important to attract, motivate, and reward the staff adequately.

Staff in positions with an explicit entrepreneurial character, like lecturers in entrepreneurship, managers of university enterprises, or university – industry linkage officers should have entrepreneurship experience, attitudes and skills. Staff should be allowed for continuous training to enhance their knowledge and skills on entrepreneurship.

University should create an annual forum of staff to review and plan entrepreneurial activities.

Entrepreneurship should be mainstreamed in staff development plans, recruitment, performance evaluations and reward systems.

Universities should improve the existing working and learning environment ('Student development focused campus') to encourage entrepreneurial attitudes of staff and students like risk taking, pro-activeness, and self-initiative.

3. Teaching and learning

Student initiatives
Student initiatives and the establishment of student entrepreneurship clubs or association should be encouraged.
Policies and regulations that support student and staff entrepreneurial initiatives at university level should be formulated and communicated widely.

Ample efforts have to be made to ensure that what is learned in class can be operationalized by the students, whether on campus or beyond.

Educational programs
To make a clear distinction in the curriculum between courses about entrepreneurship (basically the current course) and courses for entrepreneurship, which are meant to support students to become entrepreneurs.

Universities should be encourages to set-up committees drawn from those teaching entrepreneurship courses as well as other critical disciplines that can make important inputs with the purpose to improve the existing course content and determining the sequencing of the delivery of the courses.

Courses should be designed for entrepreneurship that are:

- Practical in content, away from the current theoretical orientation
- Practical in delivery
- Involve entrepreneurs in the delivery
- Offer facilities where entrepreneurial issues are practiced.

Entrepreneurship courses should be offered as of the first year to all students of all departments, and give higher formal and informal status to these courses.

The university should invest in increasing the capacity and number of staff offering entrepreneurship education.

Teaching methods
More experiential teaching methods should be applied within the universities.

Research on entrepreneurship
The university should give attention to research on entrepreneurship as a cross-cutting issue.

4. Pathways for Entrepreneurs

Awareness raising on entrepreneurial abilities
The university should develop a systematic approach to strengthen entrepreneurial awareness at all levels of the university.

Business Development Support

The university needs to develop a systematic Business Development Support program that covers all the phases of the business cycle (awareness, start-up, sustaining and growth, exit).

Entrepreneurial ideas of students and staff should be solicited on competitive basis, motivating those who are really interested to start-up a business.

Access to finance
The university needs to facilitate access to start-up and operating capital for students and staff, through different modalities like granting collateral, creating a university start-up (revolving) fund, and/or linking with investors. In this regard it is important for universities to forge close relationships with financial institutions as potential source of financing for the students, staff and university-wide entrepreneurial activities.

Facilities
The university should establish and/or strengthen the existing initiatives of Entrepreneurship Development Centers to provide meaningful business development support to the university community.

5. Cooperation with external stakeholders

Level and structure of cooperation
A sense of team sprit among university management and external stakeholders should be created.

Within the universities a pro-active attitude in dealing and engaging with external stakeholders should be enhanced. The university should give support to creative ideas by the community.

The university at all levels should value and acknowledge the importance of the private sector to work together, including supporting students with meaningful and practice oriented entrepreneurship education (internship, inviting skilled manpower from the industry) that can help them set up their enterprises after graduation.

The universities should engage more in formal and organized cooperation with private sector.

Cooperation with the local business community should be stimulated more. Concretely, the university could:

- Provide training, mentorship and other business development for micro, small and medium enterprises
- Support micro and small business enterprises by making accessible the market potential of the university to the local businesses
- Provide job opportunities for the community
- Provide research support with the intention to identify business opportunities for local entrepreneurs
- Provide entrepreneurial, managerial and technical training for the local business community
- Make university laboratories accessible for external stakeholders
- Provide special support for women entrepreneurs by providing scholarships and short term training in management, leadership, and entrepreneurship.

Recognition of external stakeholders

An institutional approach for involving external stakeholders in education and research should be designed, like guest lecturers to facilitate the teaching learning process, and membership of the university board.

Enterprising
Universities should seek ways to enter into partnerships with external companies aimed at jointly undertaking business as part of their income generating strategy.

Internships
Universities should make an assessment of their internship programs and implementation to improve the current practice.

The universities should seek ways to increase opportunities of students of experiencing business during their study.

6. Internationalization

Universities should reinforce the practice of the implementation of the internationalization strategies by creating international networks, and international staff and student mobility.

7. Impact measurement

The universities should develop a structured system for impact measurement for collecting data on the results of their entrepreneurial activities.

Every university should involve in systematically tracing the position of its graduates.

Each university should develop alumni centres that can engage in continuous tracer studies.

8. Recommendations beyond university level

It is recommended that the government initiates a national entrepreneurship policy including implementation mechanisms that are conducive for doing business in Ethiopia.

The Proclamation provides an adequate framework for autonomy in the universities. However, it needs to be further operationalized by rules, regulations and directives that guide actions in support of entrepreneurial activities at different levels of the university.

It is important for the government to sensitize its key government actors such as the Ministry of Finance and Development, Ministry of Education, Ministry of Science and Technology, National Auditor, and Parliament to the importance of entrepreneurship development and the role of HEI in the country's ongoing development, and to extend their support to it.

It is recommended that ESC convenes an annual national forum on entrepreneurship in Higher Education to exchange experiences and best practices.

It is recommended to cascade entrepreneurship education down to secondary and primary schools.

7. A renewed Entrepreneurship Development Program for BSc students

This study recommends that a clear distinction in the curriculum needs to be made between teaching about entrepreneurship and teaching for entrepreneurship, which are meant to support students to become entrepreneurs. The first type of courses is analytical and focuses on the results of research explaining why people start an enterprise and may become successful or not. The second type of courses focuses on what it takes to become an entrepreneur. There are text books on this topic, but the real question is: How do you make the necessary steps to start your own business? How do you solve the issues of finding a location, personnel, obtaining orders and/or a loan if necessary?

In this chapter elements for an approach are presented focusing on educating for entrepreneurship. This is rooted within the mandate of higher education institutions to graduate people that are employable, that have the skills and knowledge that help them in developing the country. The key imperatives to strive for greater enterprise and entrepreneurship by universities in Ethiopia are student employability, effective teaching practices that reflect the world of work, and the need for financial sustainability of the universities.

7.1 Competency framework in entrepreneurship education

Entrepreneurial competencies have been identified as a specific group of competencies relevant to the exercise of successful entrepreneurship. Effective entrepreneurship education should be centred on these competencies.

Entrepreneurial competencies[2] are defined as underlying characteristics such as specific knowledge, motives, traits, self-images, social roles and skills which result in venture birth, survival and/or growth. In short, entrepreneurial competencies is the total ability of the entrepreneur to perform a job role successfully. There is a consensus that entrepreneurial competencies are carried by individuals, who begin and transform their businesses, and there is a widespread recognition that the range of skills and competencies required to run a small firm are qualitatively as well as quantitatively different from those needed in larger organizations. This is at least in part because in an entrepreneurial context the focus is on the individual.

There is widespread acknowledgement that the success, performance and growth of a SME is heavily dependent on the competencies of the entrepreneur. Further, it has been suggested that an understanding of competencies that are exercised by the entrepreneurs leading successful small businesses can be used to support the development of those competencies, and has potential to, in turn, drive business growth. Whilst entrepreneurial competencies are important for all small enterprises, it is imperative to develop the understanding of such competencies in the context of students who are aspiring to become entrepreneurs.

[2] *A competency is measured by identifying the behaviours or tangible results (outcomes) produced by their use in the context of the work performed. In other words, competency refers to behaviour that an individual demonstrates. A behaviour is an observable action that is taken to achieve results or that contributes to an accomplishment and they can be measured by behavioural indicators. A behavioural indicator is a statement of an action, or set of actions, that one would expect to observe when a person successfully uses a competency to perform work. Behaviours may be both skills/knowledge (extrinsic and teachable) and traits (intrinsic and less easily taught).*

There are ten well recognized entrepreneurial competencies of successful entrepreneurs. These are:

- Goal setting skills
- Planning and monitoring
- Opportunity identification and taking initiative
- Risk taking
- Information seeking
- Desire to improve quality and efficiency
- Persistence and determination
- Fulfilling commitment
- Persuasion and networking
- Independence and self-confidence.

Success in business does not, however, depend merely on mastery of entrepreneurial competencies. One should also be equipped with other functional competencies such as marketing, financing, human resources, and other business management skills. Accordingly, an effective entrepreneurship education system should integrate entrepreneurial and functional competencies so that students will be well equipped with all that it takes to be successful in establishing and sustaining their businesses. For a proposal of items to be covered in entrepreneurship education for undergraduates see annex …

7.2 Experiential teaching

Entrepreneurial competencies are effectively taught using experiential teaching methods that give the opportunity for the learners to acquire the skills based on hands on experiences. In this approach, students should be immersed into the practice of doing on campus mini-businesses during the semester in which they attend the course. In the exercises, the students are expected to learn all the competencies in action; they are expected to set goals, plan and monitor their actions, take risks, identify opportunities and take actions to capitalize on them, strive to provide quality and efficiency in their activities, display persistence and commitment, demonstrate independence and self-confidence, and exercise negotiation and persuasion since they will be involved in all the activities that an actual entrepreneurs will do. In doing so, the students will be given the opportunities to practice behaviours of successful entrepreneurs, which will meanwhile enable them to develop and own those competencies that can in turn held them create and develop their own enterprises sooner or later. This type of teaching method can be coupled by other experiential teaching methods such as case studies, experience sharing by entrepreneurs through guest lectures, and business plan writing.

Experiential learning methods are effective in enabling learners to be more entrepreneurial in their career by harnessing them with the right skills and behavioural preparation. Hence, experiential learning method is the effective learning method to each students for entrepreneurship. However, universities are institutions in which knowledge is learned too. Thus, entrepreneurship education should also entail knowledge about important entrepreneurial theories (also called teaching about entrepreneurship). Accordingly, the combination of entrepreneurship for and about entrepreneurship should be applied in designating entrepreneurship education in universities with much more emphasis however given for entrepreneurial and functional competencies (i.e., teaching for entrepreneurship).

The effective implementation of the new method and approach of teaching entrepreneurship requires well trained and motivated staff. The universities should therefore, on top of revisiting their

curriculum be involved in building the capacity of their staff to move them from traditional class room ways of teaching to more effective experiential teaching method.

7.3 From awareness to business start-up

An entrepreneurship development program for BSc students has two components. First, an entrepreneurship awareness program for all students at the start of their study. Second, a business start-up program for those students who are interested in trying to set-up a business.

1. Entrepreneurship Awareness Program
Target group: all BSc students Ethiopia at the start of their study (year 1)
Objective: To advocate self-employment and new business start-up.

The main purpose of this program is to provide students with the opportunity to think about and possibly to start their own business. Simple awareness creation about entrepreneurship could play a significant role in shaping the orientation of the university community towards self-employment and opportunity recognition. The logic of the whole activity is to begin with a sensitization program that gives people an opportunity to think about whether they would be suited to self-employment or not, followed by a business ideas generation (BIG!) workshop, specifically for those people who do not have an actual 'idea' but have the motivation to start a new venture.

Self-employment sensitisation programme guidelines:
- Keep the programme short, i.e. 2-3 hours duration
- Avoid any academic content!
- Engage participants in serious reflection of their character and suitability for self-employment
- Provide participants with facts and information to continue reflecting and/or to seek more information
- Invite an entrepreneur who is an alumnus and can share her/his experiences
- Run the sensitisation program very regularly, eg, every semester
- If possible use two members of staff per university to deliver the program.

Business ideas generation programme guidelines:
- Maximum duration of program should be one day
- Avoid mentioning or teaching about potential ideas
- Focus on participants creatively thinking and generating ideas associated with their studies, work, skills-set, market opportunities/trends, etc.
- Ensure a dynamic and fast flow delivery of the day
- Provide participants with information of where they can go to obtain further help, or find more data/facts
- Run the ideas generation workshops every quarter and announce the dates in advance
- If possible use two members of staff per university to deliver the program.

2. Business start-up program
In addition, but beyond the scope of the short awareness course it should be followed-up by a program to those individuals who have a definite idea worthy to test and start a new business. Finally to offer a business counselling course to anyone who is already engaged in business but is struggling to survive, or is doing well and wants to extend the business. Such a business start-up program could be offered by a dedicated entrepreneurship development center (see next chapter).

8. University Entrepreneurship Development Centres and Incubators

This study recommends universities to strengthen or create a visible structure with a formal position and an allocated budget that will allow to act university wide (see chapter 6). Such so-called Entrepreneurship Development Centers are meant to spearhead entrepreneurship support for students and staff of the university. This chapter outlines elements of importance for successful entrepreneurship development centres and incubators.

8.1 Entrepreneurship Development Centres

Entrepreneurship development centers in the universities are dedicated units for providing students and staff communities of the universities with services which include:

- Awareness creation training and competency based entrepreneurship training;
- The provision of technical business development support including review of business plans, business counselling, assistance in sourcing credit, and assistance in identifying local subcontracting opportunities between campus-based student and staff MSEs with larger local companies.

Training activities
On top of supporting the universities in designing a more effective entrepreneurship curriculum (see chapter 7), entrepreneurship development centres should be engaged in the provision of a wide variety of training ranging from those which can help the students and staff develop an entrepreneurial attitude and competencies to the provision of several business skills. The centres may also have a role in offering entrepreneurship training to the local and regional community, for instance within the framework of community service.

It is the centres' role to develop and customize training manuals and other materials including case studies, exercises and interactive activities to implement an innovative model for entrepreneurship development across the university, and to share learned best practices.

The centres should design effective training programs that can enhance the entrepreneurial competencies and behaviour of the students and staff really interested in engaging in entrepreneurial activities. This can be achieved through the development of personal entrepreneurial competencies that are associated with successful entrepreneurs through dedicated training and integrated consultancy and business advisory support systems. In this regards, it is imperative to set specific targets and tailor approaches for different disciplines.

For the training to be effective, the centres should be equipped with well-trained entrepreneurship trainers who are trained with the provision of a competency based entrepreneurship development program. It is recommended for the universities to invest in building the capacity of their entrepreneurship trainers not only by exposing them to opportunity for tertiary education but also by exposing them to the practical world of business. This will enable the centres to promote entrepreneurship knowledge and skills across the university. Universities may collaborate with other institutions that have more experience in entrepreneurship development activities in the country in this regards, like EDC – Ethiopia (see chapter 1).

Provision of Business Development Services (BDS)

Core to the operations of a university entrepreneurship development centre is the provision of a program of Business Development Services. Such a program will involve post-training advisory services that enable students and staff with feasible business ideas to realize the full benefit and impact of a planned business development effort. By this, the centres can identify and further develop the most promising campus-based enterprises from micro and small enterprises to medium enterprises which can eventually grow into competitive large businesses. Figure 3 pictures the full package of business development services a centre could develop.

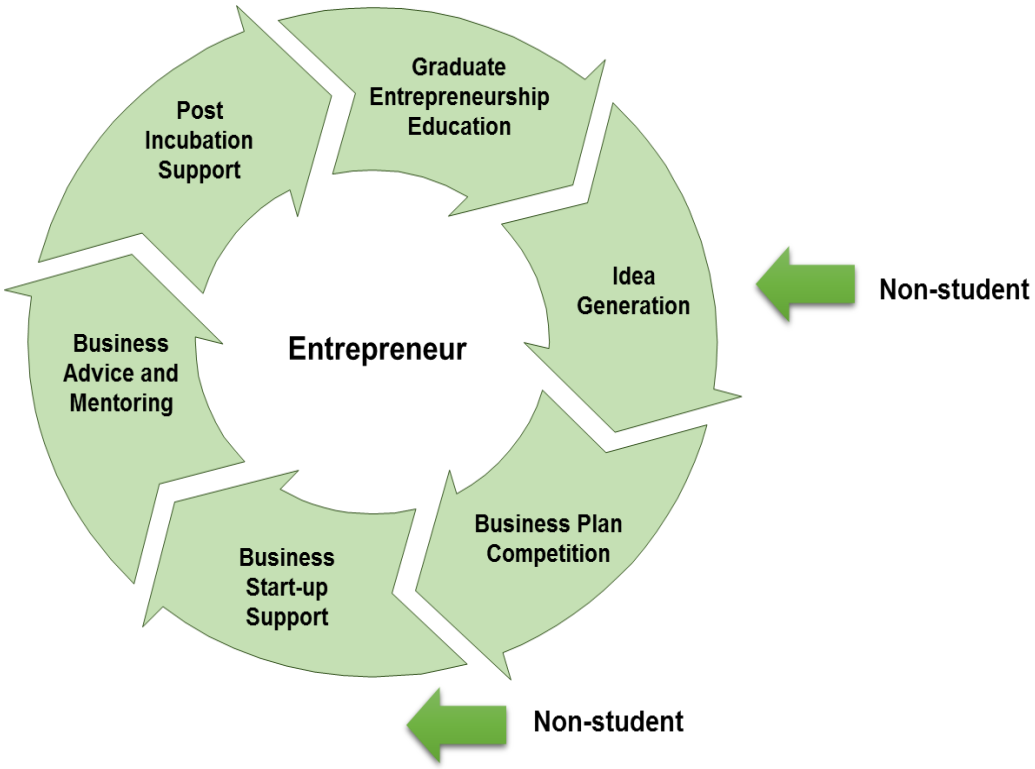

Figure 3: Portfolio of possible services for prospective entrepreneurs. Source: MSM, 2014

Dedicated business development services should only be provided to students and staff who have shown clear interest towards entrepreneurship and self-employment and who have come up with feasible business ideas.

To provide the services effectively, a BDS advisor may be assigned to a reasonable number of students aspiring to be entrepreneurs to provide them technical support on a continuous basis. These advisors will continue working with these promising entrepreneurs after the more formal training has been completed. Advisors will help in areas that have proven particularly cumbersome for young enterprises such as licensing of companies, development of books of accounts, assistance in putting in place a sound financial strategy, and developing basic human resources policies. In this context, the centres could provide a programmed package of entrepreneurial and management skills training accompanied by a coordinated delivery of customized business advisory services.

Evidence shows that many start-up enterprises fail during the first year of establishment, even after undergoing entrepreneurship training. This is because training is just one component of developing successful and competitive entrepreneurs. The critical service component is the provision of dedicated and personalized business support services to those that successfully followed an entrepreneurship training program. It is therefore recommended to provide business development

services to the most promising young entrepreneurs until they are able to run their enterprises competitively and profitably on their own.

8.2 Incubators

The university could chose to add an incubation function to the entrepreneurship development centre. A business incubator is a shared office-space facility that seeks to provide its' incubates (which can be students, graduates, staff or anyone meeting set criteria) with a strategic, value-adding intervention system of monitoring and business assistance. In this manner, successful new venture development is facilitated while simultaneously limiting the costs of potential failure of these new ventures. Research confirms that start-up businesses located in a business incubator have a higher survival rate and sales growth compared to similar start-up companies not located in a business incubator.

Business incubators can contribute to: technological upgrading and innovation; economic clustering and the development of industry capabilities; stimulation of job creation; and facilitation of technology transfer.

To maximize the chances of success, Akçomak (2011) sets out eight dimensions of good incubator policy including: 1) Clarity of mission and purpose; 2) Clear selection, entry and exit criteria; 3) Managerial capacity and incubator management skills; 4) Engagement in constant monitoring and performance evaluation of participating firms; 5) Strategic selection of services; 6) Minimization of start-up costs and red tape; 7) Focus on intangible services rather than tangible services such as office space or infrastructure; and 8) Promotion of networking as a deliberate strategy and finally financial sustainability. Incubators should eventually become financially self-sustaining (Akçomak, 2011).

A university can justify the set-up and costs involved of an incubator as instrument for entrepreneurship development. An incubator is providing low-cost, property-based facilities and shared services to nurture the development of new enterprises. It provides (on a temporary basis) the use of shared premises, equipment, entrepreneurship, business development and technical services. The facilities are provided on flexible terms so as to reduce the start-up and operational costs. Moreover, incubators address a number of critical constraints faced by new business start-ups such high fixed and entry costs, lack of access to capital, inadequate technical and market information, and weak management skills.

Example of possible strategic plan for an Incubator
For each university incubator, a strategic plan is needed outlining the mission, vision, objectives, strategy, outcomes, measurable outputs and targets. The backbone of such a strategic plan could be as follows:

Vision
An inclusive, shared and sustainable economic growth and development in the region/zone of relevance to the university
Mission
To facilitate sustainable growth of student entrepreneurs, Ethiopian micro, small and medium-sized enterprises, and university spin-offs through research, information, education and incubation and business linkages
Strategic objectives
1. To enhance entrepreneurship and support business development among student entrepreneurs and enterprises from the broader community

2. To promote the participation of student entrepreneurs and enterprises in the supply chains of corporates
3. To establish the Incubator as a reference point and center of excellence in business incubation in the region

Outcomes

- Increased business start-ups achieved
- Increased enterprise growth and development achieved
- Increased value of contracts accessed from corporations
- Increased access to finance facilitated
- Increased client satisfaction achieved

Outputs

- Number and type of entrepreneurs (tenants) assisted with the provision of physical space and administrative support services
- Number and type of entrepreneurs assisted with entrepreneurship and business development services
- Number and type of entrepreneurs provided with support to access finance, amount of funds achieved, success rate

Bibliography

Abubakar , S. G. (2010). Refocusing Education System towards Entrepreneurship Development in Nigeria: a Tool for Poverty Eradication. *European Journal of Social Sciences, 01*.

Acs, Z. (2006). Start-Ups and Entry Barriers: Small and Medium-Sized Firm Population Dynamics. In M. A. Casson, *The Oxford Handbook of Entrepreneurship Research.* New York: Oxford University Press.

Adly, A. (2014). *Reforming the Entrepreneurship Ecosystem in Post-Revolutionary Egypt and Tunisia.* Stanford: Stanford University & Center for International Private Enterprise.

Ahmad, S. Z. (2013). The need for inclusion of entrepreneurship education in Malaysia lower and higher learning institutions. *Education + Training, 55*(2), 191-203.

Akçomak, Î. S. (2011). In *Entrepreneurship, Innovation, and Economic Development, Chapter 10.*

Aranha, E. A., & Garcia, N. (2014). Dimensions of a metamodel of an entrepreneurial university. *African Journal of Business Management, 8*(10), 336-349. Retrieved from http://www.academicjournals.org/AJBM

Bacq, S., & Janssen, F. (2011). The multiple faces of social entrepreneurship: A review of definitional issues based on geographical and thematic criteria. *Entrepreneurship & Regional Development, 23*(5-6), 373-403.

Blenker, P., Korsgaard, S., Neergaard, H., & Thrane, C. (2011). The questions we care about: Paradigms and progression in entrepreneurship education. *Industry and Higher Education, 25*(6), 417 - 427.

Casson, M. (1982). *The Entrepreneur: An Economic Theory.* Oxford: Martin Robertson, 2nd. ed. Edward Elgar, 1999.

CIA. (2014). *The World Factbook.* CIA.

Cloete, N., & Bunting, I. (2000). *Higher Education Transformation: Assessing Performance in South Africa.* Pretoria: Centre for Higher Education Transformation.

Coyle, P., Gibb, A., & Haskins, G. (2013). *The Entrepreneurial University: from concept to action.* Oxford: National Centre for Entrepreneurship in Education (NCEE).

Dijk, M. v. (2005). What explains success of entrepreneurs in African countries, New theories of local economic development? In A. Helmsing, & T. Egziabher, *Local economic development in Africa, Enterprises, communities and local government* (pp. 186-197). Maastricht: Shaker.

Drucker, P. F. (1985). *The Practice of Entrepreneurship, Innovation and Entrepreneurship Practice and Principles.* New York: Harper & Row.

Dugassa, T. G. (2012). The context of entrepreneurship education in Ethiopian universities. *Management Research Review, 35*(3), 225-244. Retrieved from http://dx.doi.org/10.1108/01409171211210136

European Commission, OECD. (2013). *HEInnovate*. Retrieved from http://www.heinnovate.eu

European Commission, OECD. (2014). *The Entrepreneuerial Higher Education Institution. A review of the concept and its relevance today.* European Commission, OECD.

Fayolle, A., & Redford, D. T. (2014). *Handbook on the Entrepreneurial University.* Cheltenham: Edward Elgar.

Fetene, R. M. (2014). *University – Industry linkages in the Institutes of Technology and Natural Science fields in Ethiopia: the case of Addis Ababa, Adama Science and Technology and Bahir Dar Universities.* Addis Ababa: Addis Ababa University.

Gafar, M., Kasim, R., & Martin, D. (2013). Entrepreneurial Idea Development to Business Start - Up: Teaching Methodological Approach. *Journal of Research & Method in Education, 1*(4), 46 - 55.

Gibb, A. A., & Haskins, G. (2014, forthcoming). Key Issues in the development of the Entrepreneurial University of the Future. Challenges, Opportunities and Responses. Edinburgh: Edinburgh University.

Habtamu, L. (2015). Challenges to Entrepreneurial Success in Sub-Saharan Africa: A Comparative Perspective. *European Journal of Business and Management, 7*(11), 23 - 35.

Herrington, M., & Kelley, D. (2012). *Global Entrepreneurship Monitor: African Entrepreneurship. Sub-Saharan African regional report.* IDRC | CRDI.

Hytti, U., & O'Gorman, C. (2004). What is 'enterprise education'? An analysis of the objectives and methods of enterprise education programmes in four European countries. *Education + Training, 46*(1), 11 - 23.

IPB. (2012). *Agribusiness Department Entrepreneurship Policy.* Bogor: IPB.

Kabongo, J. D., & Okpara, J. O. (2010). Entrepreneurship education in sub-Saharan African universities. *International Journal of Entrepreneurial Behavior & Research, 16*(4), 296 - 308.

Kannan, A. S. (2012). Entrepreneurial Education in Ethiopian Universities, Current Trends and Gaps: the Case of Dilla University. *International Journal of Management (IJM), 3*(3), 121 - 130.

Kirby, D. A. (2004). Entrepreneurship education: can business schools meet the challenge? . *Education + Training, 46*(8/9), 510 - 519.

Kirby, D. A. (2006). Creating Entrepreneurial universities in the UK. *Journal of Technology Transfer, 31*(5), 599-603.

Kuratko, D. F. (2005). The emergence of entrepreneurship education: development, trends and challenges. *Entrepreneurship Theory & Practice, 29*(5), 577 - 598.

Kuratko, D., & Hodgetts, R. (2004). *Entrepreneurship: Theory, Price and Practice. 6th Ed.* Ohio: South-Western, Thomson Learning.

Lourenco, F., & Jones, O. (2006). Developing entrepreneurship education: comparing traditional and alternative teaching approaches. *International Journal of Entrepreneurship Education, 4*, 111 - 140.

Luthje, C., & Franke, N. (2003). The making of an entrepreneur: testing a model of entrepreneurial intention among engineering students at MIT. *R&D Management, 33*(2), 135 - 147.

Matlay, H. (2006). Entrepreneurship education: more questions than answers? *EducationþTraining, 48*(5), 293 - 295.

Menzel, H. (2008). *Intrapreneurship-conducive culture in industrial R&D: The design of a simulation game to create awareness and provide insight.* Eindhoven: Eindhoven University Press.

Mitra, J., & Matlay, H. (2004). Entrepreneurial and vocational education and training: lessons from Eastern and Central Europe", Industry & Higher Education. *18*(1), 53 - 69.

Nagler, P., & Naudé, W. (2014, October). Young Entrepreneurs in Rural Africa: Prevelance, Determinants, Productivity. Discussion Paper No. 8564. Bonn: Institute for the Study of Labor (IZA).

Owusu-Ansah, W., & Poku, K. (2012, August). Entrepreneurship Education, a Panacea to Graduate Unemployment in Ghana? *International Journal of Humanities and Social Science , 2*(15).

Praag, C. v., & Versloot, P. (2007). What is the value of entrepreneurship? A review of recent research. *Small Business Economics, 29*(4), 351- 382.

Premand, P., Brodmann, S., Almeida, R., Grun, R., & Barouni, M. (2012). *Entrepreneurship Training and Self-Employment among University Graduates: Evidence from a Randomized Trial in Tunisia. The World Bank Middle East and North Africa Region.* Bonn: Institute for the Study of Labor (IZA).

Robb, A., Valerio, A., & Brent, P. (2014). *Entrepreneurship education and training : insights from Ghana, Kenya, and Mozambique.* Washington DC: World Bank Group. Retrieved from http://documents.worldbank.org/curated/en/2014/06/19660925/entrepreneurship-education-training-insights-ghana-kenya-mozambique

Röpke, J. (1998). *The Entrepreneurial University: Innovation, academic knowledge creation and regional development in a globalized economy.* Marburg: Marburg University.

Sellamna, N. E., & Amare, A. G. (2014). *Assessment of University Outreach in Ethiopia.* Maastricht: MSM.

Sethi, J. (2011). *Lesson 1: Entrepreneur and Entrepreneurship*. Retrieved from Department of Commerce, University of New Delhi: http://www.du.ac.in/fileadmin/DU/-Academics/course_material/EP_01.pdf

Sherman, P. S., Sebora, T., & Digman, L. A. (2008). Experiential entrepreneurship in the classroom: effects of teaching methods on entrepreneurial career choice intentions. *Journal of Entrepreneurship Education, 11*, 29 - 43.

Solomon, G. T. (2007). An examination of entrepreneurship education in the United States. *Journal of Small Business and Enterprise Development, 14*(2), 168 - 182.

Annex 1. Survey 'Ethiopia University Entrepreneurship Assessment'

Please fill-out the following basic data:

University: ……..

Your position: ……..

Sex: Male / Female

Please indicate whether you agree or disagree with the following statements.
1 = Fully disagree
2 = Disagree
3 = Neither disagree nor agree
4 = Agree
5 = Fully agree

1. Leadership and Governance

Strategy

1.1 Entrepreneurship is a major part of the university strategy
1.2 The university has an entrepreneurial vision for the future of the institution
1.4 Staff considers the university entrepreneurial agenda as a priority
1.5 Students consider the university entrepreneurial agenda as a priority

High-level commitment

1.3 There is commitment at high level to implementing the entrepreneurial strategy

Level of autonomy

1.6 Own initiative, bottom-up risk taking behavior, and innovation are rewarded and protected in the university
1.7 University decision making is decentralized
1.8 New centers and structures can be formed easily

Internal coordination

1.10 Professional staff charged with external links and the academic staff are working together positively
1.11 Staff engaged in employability, business development, knowledge exchange and regional and local development work closely together

Support to regional development

1.9 The university is driving regional, social and community development
1.12 The university is playing an active role in determining the strategic direction of local development
1.13 The university is offering active support to regional start-ups and established companies

2. Organizational Capacity, People and Incentives

Financial strategy
2.1 The university has a sustainable financial strategy to support entrepreneurial development

Internal cooperation
2.2 Sharing of knowledge, facilities, and resources is internally stimulated

Human Resources Management
2.3 Entrepreneurial attitudes and experience play a role as criteria
2.4 The university invests in staff development to support its entrepreneurial agenda
2.5 The incentive and reward system for staff is actively supporting entrepreneurship and business creation activities
2.6 The university gives status and recognition to external stakeholders who contribute to the institution's entrepreneurial agenda
2.7 The university stimulates the contribution of external stakeholders through fellowships, joint businesses, guest lectures and the like

3. Entrepreneurship Development in Teaching and learning

Student initiatives
3.2 Student entrepreneurship development structures are financially supported by the university

Education programs
3.1 The university is structured in such a way that it stimulates and supports the development of entrepreneurial mind-sets and skills
3.6 Entrepreneurial behavior of students is supported throughout the entire higher education experience
3.5 An entrepreneurial skills development agenda is accepted across the university

Teaching methods
3.3 Staff takes an entrepreneurial approach to teaching
3.4 Lecturers are openly encouraged and rewarded for experimenting with innovative ways of teaching and learning
3.7 Experience and expertise of external stakeholders is integrated into entrepreneurship education and start-up support services
3.11 (My) lectures / Seminars promote active and experiential learning
3.12 My teaching methods help students/The teaching methods help me to better understand and relate to demands and opportunities of others
3.12b Graduates understand and are able to relate to demands and opportunities of the labor market
3.13 I/The teachers make full usage of all audio-visual aids in my/their lectures/workshops/seminars
3.14 The lecture/classroom resources (available to me) facilitate teamwork, group exercise and interactive learning
3.15 I have developed teaching materials(e.g. case studies)/In teaching, the teachers use case studies and assignments based on (my) interactions and experiences with business/industry partners and/or clients
3.15b I have cooperated with university faculty in developing teaching materials (e.g. case studies)
3.16 External experts from business are regularly engaged in education, for instance as guest lecturers

3.16b I regularly engage and collaborate with business/industry partners/university staff and faculty that are relevant to my area of work
4.4 Sufficient capacity on entrepreneurship education is available within the university, beyond the staff of the business school
4.8 The entrepreneurship courses offered are using creative teaching methods
4.9 The university supports faculty through training, coaching, resources and the like to ensure that teaching methodologies are current and appropriate

Research
3.8 The entrepreneurship courses and programs are reflecting new insights obtained in(applied) research as undertaken by the university
3.9 Internal exchange of research findings is encouraged
3.10 Faculties and departments actively cooperate in teaching and research

4. Pathways for Entrepreneurship

Awareness programs
4.1 Entrepreneurship awareness among all faculty and staff is organized well
4.2 Students are encouraged to develop entrepreneurial mind-sets, behavior and skills
4.3 Staff is encouraged to develop entrepreneurial mind-sets, behavior and skills

Business Development Support
4.5 Business -start-up education is offered across the curricula and faculties
4.6 The Business -start-up education offered by the university is well-communicated internally and externally
4.7 An entrepreneurship development program is offered that covers all the phase of the business cycle (awareness, start-up, sustaining and growth, exit)
4.10 Students are actively recruited to participate in the entrepreneurship development program(s) of the university
4.11 The university exposes staff and students to environments in which they are encouraged to develop entrepreneurship skills, like staff training, entrepreneurs in residence who teach and engage with staff and students, access to real life problems, as well
4.12 Students and staff are supported by the university in setting-up a business
4.13 Start-ups are actively supported in linking up with private and public actors
4.15 The university has a well-functioning IP policy and office
4.16 I generate an income from assignments (e.g. consultancy, training, etc) undertaken with business/industry partners

Access to finance
4.14 The university facilitates access to private financing for its potential entrepreneurs

5. Cooperation with External Stakeholders

Level and structure of cooperation
3.20 University cooperation with external stakeholders is organized and maintained on regular basis
5.1 The university is actively involved in partnerships with a wide range of stakeholders
5.2 The university provides opportunities for staff and students to take part in entrepreneurial activities with business and other external actors
5.3 The university stimulates staff and students to engage with external actors
5.6 Structures and instruments are in place at the university for collaboration and knowledge exchange with industry, society and the public sector

Enterprising
5.4 The university is ensuring that entrepreneurial opportunities are exploited

Recognition
5.5 Wide stakeholder credibility is of pertinent importance for the status of the university

6. Internationalization Strategy

Internationalization strategy
6.1 Internationalisation is a key element of the entrepreneurial strategy of the university

Staff and student mobility
6.2 The university explicitly supports international mobility of its staff and students(including PhD students)
6.3 The university seeks and attracts international and entrepreneurial staff (including teaching, research and PhDs)

International networking
6.4 The university, its departments and faculties are active in international knowledge networks and partnerships

7. Measuring the Impact

7.1 The university is measuring in a structural manner the impact of its institutional entrepreneurial strategy
7.2 Evidence on the impact of the institutional entrepreneurial activities is used for reflection and revise of the strategy and mission of the university
7.3 Entrepreneurial activities are assessed and compared across the faculties and departments
7.4 The university regularly assesses the impact of entrepreneurship education at different phases of entrepreneurship education activities (beginning, end, point in time after)
7.5 The university is measuring regularly the impact of start-up support

Annex 2. Entrepreneurial and business development needs in the pre start-up and start-up stages of the business life cycle

Stage	Characteristics	Challenges	Support Required
Pre Start-up	At this stage there is only a business idea. Growing and developing the idea requires commitment as well as frank and critical self-reflection. This period is generally characterised as a time of great uncertainty and often self-doubt as the entrepreneur considers whether they have the ***right idea, skills and resources to become successful entrepreneurs***. This phase begins when the entrepreneur first starts ***exploring the business idea***, until they are ready to start the business.	During this phase, the entrepreneur must determine how ready he or she is to start, and what the requirements are for starting the business. They assess and recognise their own entrepreneurial abilities, their financial position, barriers and the support they will require. This assessment is particularly important for identifying the entrepreneurial skills development needs, identifying business ideas, assessing the feasibility thereof.	The support should focus on empowering clients to explore all aspects necessary for starting a business such as identifying, ***assessing its feasibility and selecting the most appropriate idea***. It should focus on ***developing their entrepreneurial abilities and skills***, teach them about business planning, and the feasibility of the business idea. The support should ensure that the entrepreneur is ready to start the business.
Start-up	This phase starts when the client has ***established the feasibility of the business idea*** and proceeds to assess the viability of the idea. This involves conducting ***market research*** and assessing the marketing requirements in detail; determining the ***financial requirements*** and possible sources of funding; identifying the site for the business location and the legal/ registration requirements for the location and the business type; ***identifying staff, equipment and other resources***; developing the business identity; and ***defining the products and***	Access to start-up and operating capital is often very difficult to obtain and tied to the ability to provide collateral and proe creditworthiness. In the case of operating capital, the funding requirements are often underestimated and tend to put pressure on ability to get the product into the market. Establishing a customer base can be very challenging and is highly influenced by ability to promote and market the business. It also depends to a large extent on ability to build good relationships with customers and suppliers. Market access can also be	***Business planning support*** during this phase is particularly important. The focus should be on providing advice, while at the same time empowering the client to understand and conduct his or her own business planning. The business plan is often a critical part of accessing finance at this stage. ***Business management skills development and mentoring*** during this phase are intensive interventions that could mean the difference between survival and business failure. The business will need technical assistance to ***operationalise***

	services. All of these different aspects for starting and managing the business are pulled together into a ***business plan*** that could be presented for funding.	hindered by poorly defined product and services. Setting up the financial and administrative systems and procedures to effectively manage the business resources is another area of concern.	***the enterprise, through the establishment of financial and administrative procedures***. Technical assistance in ***accessing market and understanding market needs*** is critically important during his stage.

Annex 3: Proposed course content of entrepreneurship education for undergraduate studies

Entrepreneurial Perspective

- What is entrepreneurship?
- Who is an entrepreneur?
- Entrepreneurship, creativity, and innovation
- Types of innovations
- Entrepreneurs and strategic decisions
- Role within the economy

Entrepreneurial Mind-set, Motivations, and Behaviours

- Entrepreneurial mindset
- Entrepreneurial motivations
- Entrepreneurial competencies and behaviors
- Risk taking in entrepreneurial decision-making
- Risk, uncertainty, and stakeholder involvement
- The opportunity analysis canvas

Developing Business Plan and Business Models

- Importance of Business plan
- Information seeking and business planning
- Element of component of business planning
- Value innovation and solving real problems
- Creative value for stakeholders
- Building superior and sustainable advantage
- Crafting business models that work
- Developing Products and Services to Fit the Market
- Keys to Developing Winning Business Models
- Beginning the Business Model Canvas
- Completing the Business Model Canvas

Marketing and Venture Management

- Understanding Demand conditions
- Understanding Industry lifecycle and Structure
- Developing Competitive advantage
- The marketing mix (product, pricing, promotion, managing sales pipeline)
- Macro and micro changes that increase new venture opportunities
- Exploring and satisfying real market needs
- Customer segments, value propositions, and product features
- Customer types
- Customer segments
- Customer archetypes
- Minimum viable product
- Strategic positioning and planning

Organizing and Financing early stage companies

- Entrepreneurial team and business formation
- Sources of Capital for the Early Stage Company (investors, friends and family members, angel financing, early stage venture capitalists)
- Financial statements
- Managing Capital structure

Managing Growth and Transaction

- Preparing for the launch of the venture
- Managing early growth of venture
- New venture expansion strategies and Issues (Mergers, Acquisitions, licensing and Franchising)

Extra Activities

- Business Plan Preparation
- In Campus Mini Business Creation Assignment

Annex 4. Opening Speech at the Validation workshop on Entrepreneurship Education in Ethiopian Universities

May13, 2015, Kaleb hotel, Addis Ababa
By Admasu Shibru, PhD, Deputy Director General, Education Strategy Center

Honorable Ms Etalem Engida, CEO, Entrepreneurship Development Center
Honorable V/Presidents,
Distinguished Guests and participants,
Ladies and Gentlemen,

Good Morning.

I'm honored to be here with you this morning to open this special Workshop on "Entrepreneurship Education in Ethiopian Universities", which is crucial for economic and social development.

This is more important for the current Ethiopia, with its grand vision, and that thriving to transform its economic base from the primary industry, Agriculture that has been dominating the main economic variables - employment, GDP, Export earnings, etc.

I welcome you all to this workshop. I would also like to extend special thanks to Dr Huub and the project personnel of ULMCD who are making this Workshop a reality.

Education Strategy Center, as a research based center, is aiming at improving the efficiency and effectiveness of the education and training sector by developing policy and strategy proposals, and which ultimately ensure the supply of adequate and competent labor power. It is particularly focusing on enhancing the quality and relevance of the country's education and training system, building institutional capacities, and serving as a national center for information and data base. As one line of activity, ESC is coordinating this project of institutionalizing Entrepreneurship Education.

The workshop helps to bring together experts like you from HLIs, research institutes, business and policymaking and development agencies. In this forum, we can explore how to contribute to the innovative creation of economic opportunities and it can help to promote the well-being of the many micro, small and medium scale thousands of entities or firms in the country. Small and medium-sized enterprises (SMEs) contribute substantially to national economies, accounting for about 40 percent of jobs and 25 percent of GDP in developing countries. They are the major section of the urban population in Ethiopia with pivotal role in the transformation of the national economy into industry led economy.

Currently, the increasing number of students joining HLIs and TVETs, and the increasing number of graduates call for Quality Education, and the corresponding equally important factor, the entrepreneurship skill. As the number of employment opportunity being supplied cannot satisfy the demand by the increasing labor Supply, innovative creation of employment opportunities is so basic for the interest of the citizens and the economy. For this, entrepreneurship education and skill is critically necessary.
Universities as centers of opinion leadership should play the key role in changing and transforming the attitude of students towards being innovative, among others, in entrepreneurship development.

Our culture of transmission of knowledge through Education should be revisited and improved. All academic programs are supposed to have entrepreneurial dimension. Of course, entrepreneurship can also be applied other than business in the ordinary sense, such as in environment, social or corporate responsibilities. Entrepreneurship training shall also consider the Technological dimension, such as innovations, modifications and upgrading of tools and machines, understanding quality control and assurance, etc.
To begin with, Instructors themselves must be equipped with the skill. Then, students can develop the skill, and this can have a far reaching impact onto the whole society in terms of improving the mindset of being business oriented, and develop the culture of entrepreneurship. This can bring about diverse multiplier effects.

Ladies and Gentlemen,
This start shall enforce the development of collaboration between the academia and the business sector; the development of a more entrepreneurial education; the creation of a new generation of young graduates with an entrepreneurial mind-set and the right skills and attitudes to promote business innovations.
The global development, which is being driven by more of market forces, will leave everyone or every society to be so competitive or be out of the Game, which may end up even societal COLLAPS. In this regard, it is fundamental to identify and continuously develop and explore the sources of competitiveness, among which the human labor associated skill is the most important one, which need to embody entrepreneurship skill.

Ladies and Gentlemen,
For this purpose, scientific evidences for competitiveness, and appraisal of opportunities is basic, and as a result, Business Support Services need to be developed well. Institutional developments for a continuous provision of these services that justify proper incentives is fundamental. For this and other related services, the academia is expected to play the key roles. The academia should help by scientifically justifying business and investment opportunities, by developing project proposals, showing up the value of business research and business support services, ready to be part in such systems.
Thinking on the Entrepreneurial Education and training - in addition to the issue of quality education, in general, we need to have clear and concrete actions - the required modules and curriculums, the required technologies and processes of administration. The entrepreneurship education may need to start from the General education level to grow and develop conceptually through the TVET and the HLIs. Skill development needs to be considered as part of the curriculum, supported by a formal partnership between learning institutions and business organizations.

Ladies and Gentlemen,
In the face of globalization, it is also important to understand one's relative position in the global value chain of the respective sectors and subsectors. Ethiopia cannot afford to take decades for entrepreneurship development, as the cases with the Developed or the Older Nations. Supported by innovations, we have to devise models that can shorten the Time Cost. It is also vital to develop effective partnership arrangements with the global parties, considering sustainability of the global governances.
The Ethiopian government already understood the importance of entrepreneurship development, and developed policies for effective growth and development of enterprises. A number of federal level, and regionally, down to district level institutions and offices are established to help facilitate this development. The same institutionalization has been proposed for Universities and colleges. All these can better be supported with prior development of the same at HLIs to improve the efficiencies outside and inside.

Ladies and gentlemen,
Universities should have strategies of entrepreneurship development, and thrive for Entrepreneurship Universities. Today, your critical ideas on how to build business related creativity and innovation with our students, the nature of academic program mix to have and the modality of its administration will be of great input for the entrepreneurship development in this country. It will be of great value to the small and medium level firms and entrepreneurs, and, the national economy as a whole.

I wish you a successful discussions, and thank you for your attention.