FRAMEWORK FOR EMBEDDING EMPLOYABILITY INTO UNIVERSITY OPERATIONS
POSSIBILITY FOR MAINSTREAMING ENTREPRENEURSHIP EDUCATION

UNIVERSITY OF MADRAS, INDIA

Integrating Talent Development into Innovation Ecosystems in Higher Education
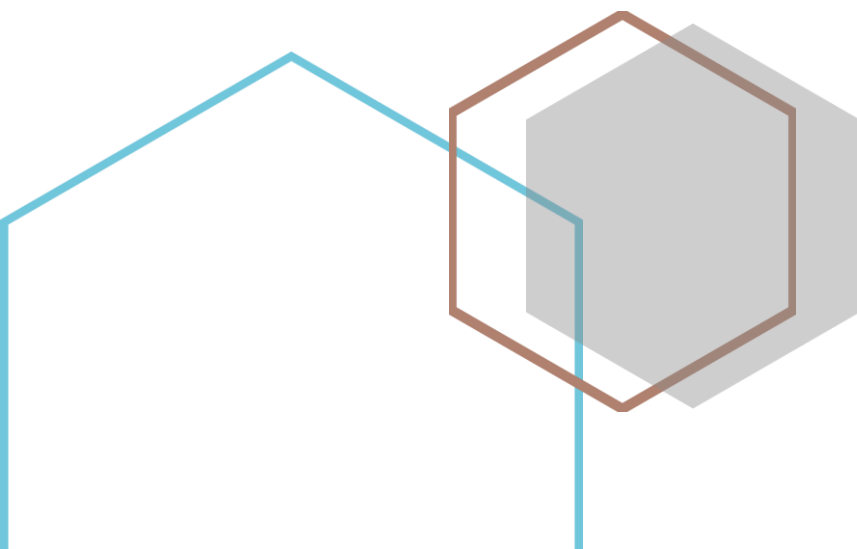
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The framework is a strategic document presenting the University plans and priorities for embedding employability across the key institutional activities – curriculum development and delivery, research and innovation and outreach. Its overall objective is to ensure that the University effectively promotes graduates' employability while contributing to national and regional developmental priorities.

The framework seeks to devise a feasible plan for including both external stakeholders (business, the citizen sector and the public sector) and students/recent graduates in employability strategies. It is focused on 'embedding' employability into various institutional activities rather than on devising ad hoc initiatives and measures for employability promotion.

OBJECTIVES OF THE STRATEGY

Education is one of the most important instruments that supply the community with needed human resources and promote social and economic transformation. In India today, the issue of education quality is a paramount one and it affects global competitiveness. As of date, India has more than 950 Universities (both public and private) and 42,000 colleges, with nearly 31 million student enrolment. However, there is serious concern over the quality of educational institutions and the low percentage of employability of students. To address these issues, the country is now in the process of taking big strides in the field of higher education. The foremost reforms concern the accreditation of institutions based on their quality of teaching, research and ability to build strong collaboration with external stakeholders for measuring quality, promotion and sustainability. By acknowledging the priority of achieving "quality of national Higher Educational Institutions", the University of Madras is imparting quality higher education to develop citizens with knowledge, skills and character leading to societal transformation. The current strategy has the following objectives:

- Further enhance academic performance and instructional ranking

- Further improve teaching and learning activities by promoting the relevance of studies to societal and industry needs

- Contribute to building a flexible curriculum system and to promoting Outcome Based Education

- Strengthen research by rewarding outstanding personnel through adopting the system of incentives

- Contribute to the University strategy for promoting innovative, broad and dynamic collaborative models with external stakeholders/industry

- Contribute to skills development

- Enable the building up of a tri-modal collaborative system teacher-learner-industry involving also experts, society and stakeholders.

CURRENT INEFFICIENCIES AND GAPS

Current inefficiencies and gaps in entrepreneurship education and innovation training

- There are gaps in promoting Entrepreneurship education and innovation training at University of Madras. Only 0.97% of programs at Master Level are imparting entrepreneurship education and skill training to the students as a core/elective subject for programs like MBA, M.Com, Human Resource Management and M.C.A. Only 39% of the students at the University are enrolled in individual core or elective courses on

Entrepreneurship. Entrepreneurship education and innovation training are thus not provided to all students and are not made compulsory for all courses. The ecosystem for Entrepreneurship is still in the making

- There is currently no orientation program that sensitizes students to the value of Entrepreneurship education and innovation training.

Current inefficiencies and gaps in the learning process

Even though some of the disciplines are offering Entrepreneurship and Skill Development programs, there is no structured learning materials/curriculum to teach these courses.

Current inefficiencies and gaps in student talent development

- There are no specific parameters/criteria for evaluation of students' talent, except conducting examinations in core subjects. There is a gap in assessing student talent at the University. Guidelines should be developed to address the issue. The University should explore the possibility of developing and introducing a competence-based framework for assessing students' skill and talent

- There is a gap between theory and practice. There is a need to emphasise and possibly assign more credits to practice.

Current inefficiencies and gaps in relations with external stakeholders

- As per the University system, some departments and faculties are maintaining links with external stakeholders and arranging internship/training for the students. Besides, the University Students Advisory Bureau (USAB) and the University Industry Community Interaction Centre are closely associated with external stakeholders. However, there is no comprehensive database for the external stakeholders that could be used by all students/faculty members to enable them to improve the learning and teaching process through more collaboration with external stakeholders. This process needs more coordination and institutionalization.

Current inefficiencies and gaps in career orientation

- A few departments, such as Department of Management Studies, the Commerce Department and the Computer Science Department are regularly giving orientation to their students as part of the academic programs. On certain occasions, the University Students Advisory Bureau (USAB) is also organizing Career Orientation for students. However, the University should take steps to establish guidelines for the orientation and it should create conditions for external stakeholders/industry experts to meet the students before students appear for job interviews

- Institutions affiliated to University of Madras have adopted certain methods which highlight best practices that can be replicated:
    - Social Entrepreneurship Incubation Centre
    - Youth Resource Centre
    - Student Platform for Collaboration with Stakeholders

FEASIBLE FUTURE IMPROVEMENTS, MEASURES AND ACTIONS

Increasing the quality or number of entrepreneurship courses and innovation trainings

- University of Madras is seriously considering reforms in curriculum. This reform should also involve an increase in the number of entrepreneurship courses and innovation trainings offered in different disciplines as compulsory courses.

- The University should also organize various entrepreneurship courses and innovation trainings for faculty members by involving external stakeholders.

- Entrepreneurship education should not be homogenous. The University should develop different entrepreneurial courses focusing on aspects and types of entrepreneurship that are relevant to different disciplines. For example, in the areas of social work, Social Entrepreneurship should be taught. For technical disciplines, Technopreneurship can be taught.

- University of Madras should design and deliver an orientation program that sensitizes students to the value of entrepreneurship education and innovation training. This orientation program should be incorporated in career guidance.

- University of Madras should develop structured learning materials/curriculum to teach entrepreneurship and skill development courses, possibly in collaboration with international partners.

Introducing entrepreneurship education and innovation training in more disciplines

- Currently, disciplines like Commerce, Management, Human Resource Development and Master of Computer Applications have courses on entrepreneurship education and also conduct many innovation training. Now the University should re-design its curriculum to introduce entrepreneurship education and innovation training in Science subjects, Women Studies, Clinical Psychology, Economics, Hotel Management and Nutrition

- While entrepreneurship is domain-specific, innovation training should be provided to students of all disciplines.

Improving students' learning experience through practice-based methodologies, extra- and co-curricular activities, or more

practical training and internships

- Involving students in curriculum design

To improve students' learning experience through practice-based methodologies, extra- and co-curricular activities, the University should involve students in curriculum design. The common goal should be to ensure that the curriculum provides employability skills

- Introduce more practical training and internships, and improve the quality of existing ones

The University should engage in planning to improve practical training and internships, as well as to significantly increase their number. It should also promote other opportunities for collaboration with external stakeholders to improve graduates' employability (including volunteering). At present, student internships in external organizations are practiced by a few departments like Management Studies, Commerce, Computer Science, Clinical psychology, Applied Geology, Women's Studies, Social studies. Following this strategy, efforts will be made to support the emulation of this practice in other social science and science departments.

- Develop a comprehensive database of external stakeholders that could be used by all students/faculty members to enable them to improve the learning and teaching process through more collaboration with the world of work

Promoting student talent development by involving them in innovation and research activities in cooperation with external stakeholders

- Strengthen the practice of involving students in research projects

The faculty members at University of Madras are involved in a large number of research projects financed by Government funding agencies (54%) and industry (10.2%). Through these projects, students are getting ample opportunity to develop their skills and receive career orientation. The University should continue this practice.

- The Talent Co-Creation Lab should be the first step toward an Entrepreneurship Hub at the University. The INNTOAL Talent Co-Creation Lab should aim at enabling this practice to be extended and to cover applied research that also involves external stakeholders

- The University should develop and introduce a competency-based framework for assessing students' skills and talent

- The University should develop clear guidelines for students' career orientation.

PRIORITY AREAS OF STUDY IN WHICH ENTREPRENEURSHIP COURSES SHOULD BE INTRODUCED

The following are the priority areas for the introduction of entrepreneurship and innovation training:

- Biomedical Sciences
- Biotechnology, Nanotechnology
- Biochemistry/Chemistry
- Microbiology
- Anthropology
- Economics
- History & Tourism
- Women's Studies.

PRIORITY AREAS FOR RESEARCH, INNOVATION AND OUTREACH IN WHICH STUDENTS COULD COLLABORATE WITH EXTERNAL STAKEHOLDERS

University of Madras promotes inter-disciplinary research, innovation and outreach programs with the collaboration of external stakeholders in the areas of Biomedical Sciences, Biotechnology, Nanotechnology, Biochemistry/Chemistry, Microbiology, Anthropology, Economics, History & Tourism, Criminology, Defence and Strategic Studies, Women Studies. It is in these areas that students should get internship, training and employment opportunities.

Under RUSA II, the research focus of University of Madras will be interdisciplinary. The aim is to promote innovative and application oriented research. The challenge is to ensure that students get maximum opportunities to get engaged in such research already while at the university.

AVAILABLE FINANCIAL AND ORGANIZATIONAL RESOURCES THAT COULD ENABLE THE IMPLEMENTATION OF THE NEW ACTIONS

The University has sufficient organizational mechanisms and resources in terms of knowledge and expertise, so this should not be an issue. In terms of financial requirement, this strategy should be linked with the newly established "Entrepreneurship and Career Hub" which was funded by MHRD under RUSA-II Program. For example, in order to promote entrepreneurship education and innovation skills, University of Madras has already introduced 9 courses in 6 skills-intensive sectors under the RUSA II Programme "Entrepreneurship and Career Hub", namely Tally, ERP9 and GST Filling, Film and Editing Techniques, Photography, Graphic Designs, Fundamentals of Tamil Computing, Health Care and Analysis, Religious Tourism, Cyber Security, Digital Forensic and Ethical Hacking and Destructive Testing and Chemical Treatment.

The University has a centralized placement centre with dedicated staff and infrastructure facilitating the linkage between industries and the students of all campuses - the University Students' Advisory Bureau (USAB). This Bureau is responsible for offering placement services and internship services to graduates. This structure will be an important resource in the implementation of the strategy, as it would ensure that

the planned actions are implemented in efficient ways. The design and delivery of entrepreneurship courses and innovation trainings for faculty members (also involving external stakeholders) can happen in the frame of the skills development programme of RUSA-II "Entrepreneurship and Career Hub".

University of Madras has established a University Industry Community Interaction Centre in 1997 in response to the vision of the Ministry of National Skill Development and Entrepreneurship to promote Entrepreneurship education and innovation training and to create a database on the needs of industries in the country. The Centre has launched an Industrial Associateship program to provide necessary knowledge and skill force to the industry. This centre will be an important asset in the implementation of the current broader strategy.

Further, to fill the existing industry-academic gap, the University of Madras is planning to incorporate in its syllabus for undergraduate programmes subjects related to cutting edge technologies, such as artificial intelligence, machine learning and data science. The IT giant TCS has offered to help in revising syllabuses for Computer Science related courses. This will help students of arts and science colleges get campus placements in leading MNCs soon after their graduation. The help of Madras Chambers of Commerce and Industry is already being utilized when planning to introduce Entrepreneurship programs in B.Com and BBA Courses. Such existing interactions should be utilized to ensure optimal implementation of this strategy.

HUMAN RESOURCES AVAILABLE TO IMPLEMENT THE NEW ACTIONS

Even though more than 40% of the faculty positions are vacant at the University, the available academic and administration staff is able to manage the planned activities. The University has adopted mechanisms to motivate and encourage the faculty. Outstanding faculty members who bring resources, technology or patents to the University are being honoured with incentives and rewards.

The University has already created the necessary new policies to invite resource persons and experts from industry to teach specific courses, as well as to enter into industry-academia partnerships. The recently launched Gender Lab at the Department of Women Studies is an example of collaboration and innovation. While the infrastructure of the lab was fully funded by industry, the online modules were created by the faculty. The Gender Lab will offer online workshops and other trainings to students, faculty and administrative staff on Gender sensitization.

MANAGEMENT OF THE IMPLEMENTATION OF THE PROPOSED NEW ACTIONS	Strategic management geared toward achievement of the objectives of the proposed actions is the responsibility of the Vice-Chancellor – in the academic field, and the Registrar – in the field of administration. Under these two senior positions there are various Departments and Offices that should be tasked with monitoring and implementing the new action plan.
LEADERSHIP IN THE PROCESS OF INSTITUTIONAL CHANGE	University of Madras has established a separate division for "Entrepreneurship and Career Hub" with one full-time Coordinator and administrative staff including Assistant Registrar, Section Officer, Assistant Section Officer and office assistant. These staff members should have prime responsibility for the implementation of the proposed actions.
STAKEHOLDER ANALYSIS	The table below present the current stakeholder analysis.

Stakeholder (group or person)	Stakeholder position toward the proposed actions – positive or negative	Stakeholder's level of influence – capacity, influence and power to oppose or facilitate the proposed actions	Stakeholder's level of interest in the change	Possible approaches to winning this stakeholder over or limiting its negative influence
University Authorities	Positive	High – it is very important to have their support in order to embed the Talent Co-Creation Lab and its activities within the existing structures of the University	Moderate to Strong – any new idea needs time to percolate down the hierarchy. However, the recent focus of funding from the National Government through RUSA scheme has emphasized the need for entrepreneurship support activities, including such activities for students. There is likely to be great support for an Entrepreneurship Hub	Need to communicate effectively and highlight the importance of a comprehensive employability strategy and the Talent Co-Creation Lab as a forerunner to an Entrepreneurship Hub with a larger mandate
Students	Neutral to positive	With capacity building and handholding, they will be able to facilitate the proposed actions	Strong – but need extensive training before they can be engaged in this activity	Awareness raising actions (dissemination) Actions to provide an enabling environment through proper infrastructure support and opportunities Relevant training
Faculty	Positive, but there is a certain lack of awareness	Important as they should be the facilitators in Entrepreneurship Education and Innovation training. During the implementation phase, support from faculty	Moderate – need a change in perception and mind set	Need to establish suitable credit and reward mechanisms for the extra work that the new actions entail

		will be crucial	
External Stakeholders (Trainers, Companies, other organisations)	Neutral to positive	They are crucial as the whole strategy hinges on their active involvement. They are the source of information about industry needs and requirements	Moderate –a change in mind set is needed to convince them to embrace the connection between academia and industry	Creating enabling collaborative mechanisms (MoUs, involving them as members of academic decision making bodies, involving them as lecturers on specialised topics, etc.) Continuous dissemination and awareness raising
INNOTAL Project Leaders	Positive	Expected to act as implementers, champions of the cause and whistle blowers	Strong, but constantly need to balance between the existing regulations in the university and project demands	Need more capacity building on Outcome Mapping and Leadership Styles

STAKEHOLDERS

Latents – University Administration

- Keep communication channels open
- Balance between University regulations and time-based project outcomes.

Promoters/Opponents – Faculty (including the projects leaders)

- Design, develop and teach suitable curriculum on entrepreneurship
- Include more practicum and hands-on training to promote innovation
- Change in mindset – need to believe that they are the change makers.

Defenders/Critics – Students

- Enabling environment
- Handholding
- Change the attitude toward risk taking
- Sensitize to the need to bridge the gap between knowledge and reality.

Apathetics – External Stakeholders

- Convince them to make efforts to bridge the gap between industry and academia
- Awareness raising about possibilities of collaboration.

EXPECTED IMPACT OF THE NEW ACTIONS

Expected impact on students:

- Increase in employment opportunities
- Increase in placement rate
- Entrepreneurship as viable employment
- Skilling in addition to knowledge building

Expected impact on faculty:

- Innovations in Curriculum design
- Interactions and collaborations with industry experts
- Co-teaching with industry leaders
- Framing research and teaching in alignment with industry

Expected impact on the University:

- Better ranking at national level accreditation
- More visibility among public universities
- Opportunity to re-connect with alumni in industry

RISK ANALYSIS

The following risks are associated with the implementation of this strategy.

Students: they can perceive the new initiatives as involving additional unnecessary workload and risk taking

Faculty: including entrepreneurship mentoring as part of the required workload may be resisted

University: there may be some resistance to any further development of a culture of openness, or it may be perceived as not compatible with existing regulations at the institutional, state and national levels

The following strategies to mitigate or eliminate the identified risks are feasible:

Students: awareness raising focused on helping students understand the importance and benefits of needs-based and active learning, as well as the development of skills rather than just knowledge

Faculty: capacity building to develop skills and habits for incorporating industry collaboration into teaching and research

University: gradual amendments to existing policies, making sure that no existing regulations are infringed.

SWOT ANALYSIS FOR THE PROPOSED ACTIONS

Strengths:
- As one of the oldest universities, University of Madras has a longstanding tradition to embrace change and respond to the pressing needs of society and the economy

- Entrepreneurship training is on the agenda of the State and the Nation

- The Talent Co-Creation Lab can be easily embedded within existing university structures

Weaknesses:
- Embedding the project goals within existing policy framework can be challenging

- Handholding and support (especially monetary) of Talent Co-Creation Lab beyond the duration of the project can be challenging

- Increasing the practicum requirement (%) within the existing curriculum may meet some resistance

Threats:
- Inadequate participation of external stakeholders/faculty

- Apathy

Opportunities:
- Peer mentoring

- Industry collaborations

- Innovation frameworks especially in curriculum.

The following logical framework will guide the implementation of this strategy:

Objective(s)	Activities	Indicators	Means of verification	Assumptions
Enhancing faculty relationship with companies	- Training the faculty - Establishing and maintaining research partnerships with industry	- 20% of the faculty members have established relationship with industries - Number of projects obtained -Number of students benefited - Number of students who get internships	University reports and information from faculty members	Through this objective, faculty and industry relationship will be strengthened and in turn help the students to get more internship and employment opportunities.
Introduction of new entrepreneurship and soft skills courses	Designing and delivering teaching, training, workshops, etc.	9 new courses introduced with support of industries; more than 350 students benefited	Feedback from learners, examination results, results from mini projects	Students will get motivation and innovation skills to start new companies after graduation
Strengthening research output	Faculty members are encouraged to apply for projects that involve collaboration with industries	- Number of publications - Number of patents	Periodical project reviews, outcome of publications	Faculty members will get rewards based on grants obtained and it will motivate them to apply for more projects
Review of curriculum	Design and develop suitable curriculum to promote entrepreneurship education with the help of industry experts	Revising the syllabuses of 69 UG courses and 30 PG Courses - Number of students benefited by enrolling in these course	Feedback from students; feedback from faculty; feedback from industry industry	This will help students of arts and science colleges get campus placements in leading MNCs soon after graduation.
Development of new strategies to build a stronger institution	Carrying out academic and research reforms	- Number of students enrolled -Number of students	Ranking of University based on the academic and research outcomes; NAAC	Enabling mechanisms and academic and administrative reforms will increase the student

	that get employment after graduation -Grant/fund mobilization through extramural funding	accreditation score and reports	enrolment rate and employability, as well as the ranking at national and global level