

ERASMUS+ project

Enhancing Quality Assurance Management and Benchmarking Strategies in Indian Universities

Report by Indian Institute of Technology Madras

i. Future deployment/adaptation plan with a focus on sustainability

IIT Madras is a globally recognized engineering and technology Institute, located in Chennai, India. The vision of the Institute is to be an academic institution in dynamic equilibrium with its social, ecological and economic environment striving continuously for excellence in education, research and technological service to the nation. It aspires to be in top 50 in all disciplines through excellence in research and education and become India's leading institution for developing technological solutions to meet the Country's challenge.

IIT Madras has been ranked as the top engineering institution in the Country by National Institutional Rankings Framework (NIRF) of Govt. of India for five consecutive years from 2016 and as the Best Overall Educational Institution in India for 2019 and 2020, by the same Rankings. Moreover, it has been adjudged as the 'Top innovative Institution' in the country in Atal Ranking of Institutions on Innovation Achievements (ARIIA) in 2019 and 2020. ARIIA Ranking was launched by the Innovation Cell of Ministry of Education, Govt. of India.

Since 1999, IIT Madras has been certified under ISO 9001:2015, for twelve administrative and support services for academic functions. The services include: Academic Section, Central Library, Central Workshop, Computer Centre, Centre for Industrial Consultancy & Sponsored Research, Administration, Stores and Purchase, Security, Engineering Unit, Central Electronics Centre, Finance and Accounts, Institute Hospital.

More recently, IITM has been recognized as an "Institution of Eminence" by the Govt. of India. Under this project, the Govt. endeavours to empower a highly select number of Higher Educational Institutions to help them become world class teaching and research institutions. This will largely be done through financial support and greater autonomy in select areas of functioning. IIT Madras has set certain targets for itself for next 5, 10 and 15 years, based on the IoE framework.

In 2020, an “Institute Advisory Board’ has been set-up to provide guidance to the Institute on the best global practices followed by renowned international institutions. The Board comprises eminent alumni as well as well-wishers of the Institute from across the world. It will be help devise strategies to implement global best practices that enable acceleration of research programmes, establishment and growth of world-class research centres, encouragement of innovation and entrepreneurship, and recruitment of top faculty members and students from across the world, among others.

The EQUAMBI Project has been undertaken under the aegis of Global Engagement Office of IIT Madras. The intention behind joining the project was to learn about the best practices followed by leading Indian and International educational institutions, especially in the area of academics, teaching, research and internationalization with a special focus on quality assurance and data management.

As emphasised by this project as well, Benchmarking has proven to be an effective tool for IIT Madras in both identifying our weaknesses as well as strength, as well as to formulate our Strategic Plan (first 2010 and later 2020) and improve the overall quality and processes, in whatever we do. Our participation in key national and international Rankings like National Institutional Rankings Framework (NIRF – launched in 2016)), Atal Ranking of Institutions on Innovations Achievements (ARIIA –launched in 2018), both by the Govt. of India and global Rankings like QS and THE is a testimony to the same. While IITM has managed to be at the top among engineering institutions in the Country, since the inception of the NIRF Rankings in 2016. It also bagged the top slot under the Overall category of the same Rankings in 2019 and 2020. Most recently, Institute has been able to improve its position in the QS World University Rankings 2022 from 275 last year to 255 this year.

By participation in this project, it has been realized that Quality Assurance needs to be a continuous process that needs to be imbibed at the grassroots levels. IITM has an Office of Quality Management at present that is largely involved in getting the ISO 9001:2015 certification that focusses on all the quality aspects pertaining to the support services of the Institute. The Institute is contemplating on establishing an Internal Quality Assurance Cell, which can ensure that any future strategy of the Institute is data based and bench-marked driven. Due to the Covid pandemic and frequent lockdowns, nothing much could be done at the Institute in this regard so far but we are hopeful of having an IQAC in near future.

One of the key learning from the EQUAMBI project indeed has been that the Strategic Plan of the Institute needs to be data based and bench-marked driven. The Institute is taking various steps to improve the existing Data Collection and Data Management system, with greater emphasis being given on Data Privacy.

The EQUAMBI project has helped us proactively look at some key areas to meet our objectives:

1. Data Management – Not just the importance of maintaining data but also data collation, data analysis, how to use the data for various requirements and importance of privacy in data.
2. Quality Assurance – Ensuring high quality or certain amount of standardization in whatever we do, by having set processes or systems in place. Of course, these processes and systems also need to be revisited on regular basis for a continuous improvement and growth.
3. Benchmarking – Identifying key indicators that may reflect our quality or growth and encourage us to compete with the best in the world can be an effective way to improve. For instance, benchmarking in the areas of Placements of our students, quantity and quality of research publications, number of patents filed, Sponsored Research and Industrial Consultancy project undertaken etc. can help us realize where do we stand against the best in the world and work towards it.
4. Enhanced collaboration – Increasing our network and partnerships both at national and global level, is indeed the way forward. Besides learning about the best practices followed by the EQUAMBI partner institutions and other institutions in India and abroad, collaborations can help us find solutions to problems and contribute to the overall academics and research culture of the Institute.
5. Quality indicators – The project had enabled IITM to come up with certain Key Performance Indicators that will help us to determine if we are indeed on the right track. Having quantifiable goals will ensure a focussed approach from all concerned stakeholders and timely completion of the goals.

ii. Report on the use of dissemination materials and related activities

IIT Madras had an opportunity to host Integration workshop “Towards a data management system” in April 2019, which was not just attended by the senior officials and faculty members of IIT Madras and partner institutions of EQUAMBI but also attracted participation from other Indian Institutions such as the Madurai Kamraj University, Manipal Academy of Higher Education, Chettinad Academy of Higher Education etc. These Institutions were familiarized with EQUAMBI project.

Many of the challenges faced by the Indian institutes in collecting, maintaining and utilizing the data were discussed, on the occasion.

Once the pandemic is behind us, we are hopeful of sharing the learnings from this project with other Centrally Funded Technical Institutions and help them come up with their own Benchmarking Strategies and Implementation Plans.

iii. **Report on the impact achieved so far**

Being a part of the EQUAMBI project has been a great learning experience for not only those directly involved with the project, Teams working in the areas of Data Management, Quality Assurance and Rankings at IIT Madras but also a larger section of people including Institute officials. As mentioned above, the learning from the project has not only enabled IIT Madras to continue with its streak of being number 1 Engineering institute in the Country, for last five years, as per NIRF Rankings but also improve its position from No. 2 to No. 1 in the Overall category. More recently, the Institute was better its rank from 275 to 255 in the QS World University Rankings 2022.

The learnings from the project has enabled us to encourage greater flexibility in Academics and offer more number of interdisciplinary programmes. As an endeavor towards taking quality education to masses, the Institute launched the World's first-ever Online B.Sc. Degree in Programming and Data Science in June 2020, in the middle of Covid pandemic. This unique offering removes all barriers of age, discipline or geographic location and provides access to a world-class curriculum in data science which is in huge demand for skilled professionals.

To address the issues of quality faculty, the Institute has engaged industry experts as "Professors of Practice" and introduced schemes like "Visiting International Faculty". IIT Madras intends to increase the number publications that are in same journals as the 50 top-ranked universities to 85+% from current <70% and is taking slew of measures in this direction, some of which came as a learning from the EQUAMBI project. Right from sensitizing faculty to publish in quality journals by categorizing the journals into Desirable, Acceptable and Avoidable; tackling issues of name variations, ORCID id; and encouraging collaborative efforts in paper publishing, to mention some. Due to these efforts, the Institute has seen an improvement in its score from 50.9 last to 60.2 this year, in the category of 'Citations per Faculty', in the QS World University Rankings.

The selection of IIT Madras as an Institution of Eminence in late 2019 is further testimonial to the fact that we are indeed on the right track. IITM has set certain targets for next 5, 10 and 15 years, under the Institution of Eminence project. A quarterly review is being done to assess if the Institute is on the right path to meet its objectives.

The Institute intends to continue to constantly benchmark against comparable institutions to realistically assess current standing, and to learn and adopt best practices to improve that standing. Once this pandemic is behind us, we are hopeful of implementing the EQUAMBI project at IIT Madras in a sustainable manner on a long term basis.