

**Mahatma Education Society's
Pillai College of Engineering, New Panvel**



**Innovation and Startup Policy
(for Students and Faculty)**

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Pillai College of Engineering Innovation and Startup Policy

1. Strategies and Governance

- a. Promotion of Innovation and Entrepreneurship (I & E) is an important activity at Pillai College of Engineering (PCE), and a well articulated strategy has been formulated to implement entrepreneurial vision of the institute. Specific objectives and associated performance indicators are identified to assess and monitor the development of the entrepreneurial ecosystem in the organization.
- b. The implementation of innovation entrepreneurial policy is the responsibility of a senior person at the level of dean/ director/ equivalent position, who understands the industry and startup culture. The policy is formulated keeping the institute's vision and missions in mind.
- c. Resource mobilization plan is worked out to ensure not only development of incubation infrastructure and facilities, but also supporting pre-incubation activities. To minimize organizational constraints, a sustainable financial strategy is adopted for the implementation of entrepreneurial agenda.
 - i. Investment in entrepreneurial activities is part of the institutional financial strategy. Minimum 2% fund of the total annual budget of the institution should be allocated for funding and supporting innovation and startups related activities.
 - ii. The strategy should also involve raising funds from diverse sources to reduce dependency on the funding. Bringing in external funding through government (state and central) agencies such as DST, DBT, MHRD, AICTE, TDB, TIFAC, DSIR, CSIR, BIRAC, NSTEDB, NRDC, Startup India, Invest India, MeitY, MSDE, MSME, UoM etc. and non-government sources should be encouraged.
 - iii. To support technology incubators, the institute may approach private and corporate sectors to generate funds, under Corporate Social Responsibility (CSR) as per Section 135 of the Company Act 2013.
 - iv. Institute may also raise funding through sponsorships and donations.

- v. Institute may also raise funding through sponsorships and donations. Institute should actively engage alumni networks for promoting Innovation & Entrepreneurship.
- d. For expediting the decision making, hierarchical barriers are minimized and individual autonomy and ownership of initiatives is promoted.
- e. Importance of innovation and entrepreneurial agenda is known across the institute and promoted and highlighted at institutional programs such as conferences, convocations, workshops, etc.
- f. Student and faculty startup Policy and action plan is formulated at Institute level, which is in line with the current document along with well-defined short-term and long-term goals. Micro action plans have also been developed by various departments to accomplish the policy objectives.
- g. Institute endeavors to develop and implement I & E strategy and policy for the entire institute in order to integrate the entrepreneurial activities across various centers, departments, faculties, within the institutes, thus breaking the silos.
- h. Product to market strategy for startups has been developed by the institute.
 - i. Development of entrepreneurship culture is not limited within the boundaries of the institution.
 - ii. Institute would be the driving force in developing entrepreneurship culture in its vicinity (regional, social and community level). This shall include giving opportunity for regional startups, provision to extend facilities for outsiders and active involvement of the institute in defining strategic direction for local development.
 - iii. Strategic international partnerships would be developed using bilateral and multilateral channels with international innovation clusters and other relevant organizations. Moreover, international exchange programs, internships, engaging the international faculties in teaching and research should also be promoted.

2. Startups Enabling Institutional Infrastructure

Creation of pre-incubation and incubation facilities for nurturing innovations and startups in PCE will be undertaken. Incubation and Innovation need to be organically interlinked. Without innovation, new enterprises are unlikely to succeed. The goal of the effort should be to link INNOVATION to ENTREPRISES to FINANCIAL SUCCESS.

- a. PCE is in process of creating facilities for supporting pre-incubation (e.g. IICs as per the guidelines by MoE's Innovation Cell, EDC, IEDC, New-Gen IEDC, Innovation Cell, Startup Cell, Student Clubs, etc.) and Incubation/ acceleration by mobilizing resources from internal and external sources.
- b. This Pre-Incubation/Incubation facility is accessible 24x7 to students, staff and faculty of all disciplines and departments across the institution.
- c. Institute would offer mentoring and other relevant services through Pre-incubation/Incubation units and might charge a suitable fee for providing space to the startups. At times, there may be equity sharing in Startups supported through these units. The extent of equity sharing will depend upon the nature of services offered by these units and are elaborately explained in Section 3.

3. Nurturing Innovations and Startups

- a. PCE has established processes and mechanisms for easy creation and nurturing of Startups/enterprises by students (UG, PG, Ph.D.), staff (including temporary or project staff), faculty, alumni and potential start up applicants even from outside the institutions.
- b. While defining their processes, institutions will ensure to achieve following:
 - i. Incubation support: Offer access to pre-incubation & Incubation facility to start ups by students, staff and faculty for mutually acceptable time-frame.
 - ii. Will allow licensing of IPR from institute to start up: Ideally students and faculty members intending to initiate a start up based on the technology

developed or co-developed by them or the technology owned by the institute, should be allowed to take a license on the said technology on easy term, either in terms of equity in the venture and/ or license fees and/ or royalty to obviate the early stage financial burden.

- iii. Will allow setting up a start up (including social startups) and working part-time for the start ups while studying / working: PCE allows its students / staff to work on their innovative projects and setting up start ups (including Social Startups) or work as intern / part-time in startups (incubated in any recognized HEIs/Incubators) while studying / working. At present Mumbai University does not allow student entrepreneurs to earn credits for working on innovative prototypes/Business Models. Efforts will be made so that student inventors may also be allowed to opt for start up in place of their mini project/ major project, seminars, summer training. The area in which a student wants to initiate a startup may be interdisciplinary or multi- disciplinary. However, the student must describe how they will separate and clearly distinguish their ongoing research activities as a student from the work being conducted at the start up.
- c. Students who are under incubation, but are pursuing some entrepreneurial ventures while studying should be allowed to use their address in the institute to register their company with due permission from the institution.
- d. Efforts would be made that student entrepreneurs are allowed to sit for the examination, even if their attendance is less than the minimum permissible percentage, with due permission from the institute.
- e. Efforts would be made to allow students to take a semester/year break (or even more depending upon the decision of the review committee constituted by the institute) to work on their startups and re-join academics to complete the course. Student entrepreneurs may earn academic credits for their efforts while creating an enterprise. Institute would set up a review committee for review of start up by students, and based on the progress made, it may consider giving appropriate credits for academics.
- f. The institute has a provision of accommodation to the entrepreneurs within the campus

for some period of time.

- g. PCE envisages to start a part-time/full time MBA/ PGDM (Innovation, entrepreneurship and venture development) program where one can get a degree while incubating and nurturing a startup company.
- h. Institute will facilitate the startup activities/ technology development by allowing students/ faculty/ staff to use institute infrastructure and facilities, as per the choice of the potential entrepreneur in the following manners:
 - i. Short-term/ six-month/ one-year part-time entrepreneurship training.
 - ii. Mentorship support on a regular basis.
 - iii. Facilitation in a variety of areas including technology development, ideation, creativity, design thinking, fund raising, financial management, cash-flow management, new venture planning, business development, product development, social entrepreneurship, product- costing, marketing, brand-development, human resource management as well as law and regulations impacting a business.
 - iv. Institute may also link the startups to other seed-fund providers/ angel funds/ venture funds or itself may set up seed-fund once the incubation activities mature.
 - v. License institute IPR as discussed in section 4 below.
- i. In return for the services and facilities, the legal entity designated by the institute may take 1% to 5% equity/ stake in the startup/ company, based on use of brand, faculty contribution, infrastructure support and use of the institute's IPR. The legal entity designated by the institute would normally take nominal equity share, unless its full-time faculty/ staff have substantial shares. Other factors for consideration should be space, infrastructure, mentorship support, seed- funds, support for accounts, legal, patents etc.
 - i. For staff and faculty, the legal entity designated by the institute would not take

more than 20% of shares that staff faculty takes while drawing full salary from the institution; however, this share will be within the 5% cap of company shares, listed above.

- ii. No restriction on shares that faculty / staff can take, as long as they do not spend more than 10% of office time on the startup in an advisory or consultative role and do not compromise with their existing academic and administrative work / duties. In case the faculty/ staff holds the executive or managerial position for more than three months in a startup, then they may go on sabbatical/ leave without pay/ earned leave.
- iii. In case of compulsory equity model, Startup may be given a cooling period of 3 months to use incubation services on rental basis to make a final decision based on satisfaction of services offered by the legal entity designated by the institute/incubator. In that case, during the cooling period, the legal entity designated by the institute cannot force startups to issue equity on the first day of granting incubation support.
- j. The institute could consider providing services based on a mixture of equity, fee-based and/ or zero payment model. So, a startup may choose to avail only the support, not seed funding, by the institute on rental basis.
- k. Institute has a policy to extend this startup facility to alumni of the institute.
- l. Participation in startup related activities needs to be considered as a legitimate activity of faculty in addition to teaching, That is, in addition to R&D projects, industrial consultancy and management duties, contributions towards start-ups are considered while evaluating the annual performance of the faculty. Every faculty may be encouraged to mentor at least one startup.
- m. Product development and commercialization as well as participating and nurturing of startups would now be added to a bucket of faculty-duties and each faculty would choose a mix and match of these activities (in addition to minimum required teaching and guidance) and then respective faculty are evaluated accordingly for their

performance and promotion.

4. Product Ownership Rights for Technologies Developed at Institute

- a. When institute facilities / funds are used substantially or when IPR is developed as a part of curriculum/ academic activity, IPR is to be jointly owned by inventors and the institute.
 - i. Inventors and institute could together license the product / IPR to any commercial organisation, with the patentee having the primary say. License fees could be either / or a mix of
 1. Upfront fees or one-time technology transfer fees
 2. Royalty as a percentage of sale-price
 3. Shares in the company licensing the product
 - ii. An institute may not be allowed to hold the equity as per the current statute, so SPV may be requested to hold equity on their behalf.
- b. On the other hand, if product/ IPR is developed by innovators not using any institute facilities, outside office hours (for staff and faculty) or not as a part of curriculum by student, then product/ IPR will be entirely owned by inventors in proportion to the contributions made by them. In this case, inventors can decide to license the technology to third parties or use the technology the way they deem fit.
- c. If there is a dispute in ownership, a minimum five member committee consisting of two faculty members (having developed sufficient IPR and translated to commercialization), two of the institute's alumni/ industry experts (having experience in technology commercialization) and one legal advisor with experience in IPR, will examine the issue after meeting the inventors and help them settle this, hopefully to everybody's satisfaction. Institute can use alumni/ faculty of other institutes as members, if they cannot find sufficiently experienced alumni / faculty of their own.
- d. Institute IPR cell or incubation center will only be a coordinator and facilitator for

providing services to faculty, staff and students. They will have no say on how the invention is carried out, how it is patented or how it is to be licensed. If the institute is to pay for patent filing, they can have a committee which can examine whether the IPR is worth patenting and own the patent. The committee should consist of faculty who have experience and excelled in technology translation.

- e. The institute's decision-making body with respect to incubation / IPR technology-licensing will consist of faculty and experts who have excelled in technology translation. Other faculty in the department / institute, including heads of department, heads of institutes, deans or registrars, will have no say in the above.
- f. PCE promotes Interdisciplinary research and publications or startup and entrepreneurship.

5. Organizational Capacity, Human Resources and Incentives

- a. PCE endeavors to recruit staff that has a strong innovation and entrepreneurial/ industrial experience, behaviour and attitude. This will help in fostering the I&E culture.
 - i. Some of the relevant faculty members with prior exposure and interest are routinely deputed for training to promote I&E.
 - ii. To achieve better engagement of staff in entrepreneurial activities, a suitable institutional policy on career development of staff has been developed. There is emphasis on constant upskilling.
- b. Faculty and departments of the institutes have to work in coherence and cross-departmental linkages should be strengthened through shared faculty, cross-faculty teaching and research in order to gain maximum utilization of internal resources and knowledge.
- c. Periodically some external subject matter experts such as guest lecturers or alumni can be engaged for strategic advice and bring in skills which are not available internally.

- d. Faculty and staff should be encouraged to do courses on innovation, entrepreneurship management and venture development.
- e. In order to attract and retain the right people, PCE has academic and non-academic incentives and reward mechanisms for all staff and stakeholders that actively contribute and support entrepreneurship agenda and activities.
 - i. The reward system for the staff includes sabbaticals, office and lab space for entrepreneurial activities, reduced teaching loads, awards, training, etc.
 - ii. The recognition of the stakeholders may include offering use of facilities and services, strategy for shared risk, as guest teachers, fellowships, associateships, etc.
 - iii. A performance matrix should be developed and used for evaluation of annual performance.

6. Creating Innovation Pipeline and Pathways for Entrepreneurs at Institute Level

- a. To ensure exposure of maximum students to innovation and pre incubation activities at their early stage and to support the pathway from ideation to innovation to market, mechanisms should be devised at institution level.
 - i. Spreading awareness among students, faculty and staff about the value of entrepreneurship and its role in career development or employability should be a part of the institutional entrepreneurial agenda example like arranging Business Plan Competition.
 - ii. Students/ staff should be taught that innovation (technology, process or business innovation) is a mechanism to solve the problems of the society and consumers. Entrepreneurs should innovate with focus on the market niche. Curriculum subjects like entrepreneurship development should be incorporated for students.

- iii. Students should be encouraged to develop entrepreneurial mindset through experiential learning by exposing them to training in cognitive skills (e.g. design thinking, critical thinking, etc.), by inviting first generation local entrepreneurs or experts to address young minds. Initiatives like idea and innovation competitions, hackathons, workshops, bootcamps, seminars, conferences, exhibitions, mentoring by academic and industry personnel, throwing real life challenges, awards and recognition should be routinely organized.
 - iv. To prepare the students for creating the start up through the education, integration of education activities with enterprise-related activities should be done.
- b. PCE endeavors to link their start ups and companies with a wider entrepreneurial ecosystem and by providing support to students who show potential, in the pre-startup phase. Connecting student entrepreneurs with real life entrepreneurs will help the students in understanding real challenges which may be faced by them while going through the innovation funnel and will increase the probability of success.
 - c. PCE has established the Institution's Innovation Council (IIC) as per the guidelines of MoE's Innovation Cell and allocates appropriate budget for its activities. IICs should guide institutions in conducting various activities related to innovation, startup and entrepreneurship development. Collective and concentrated efforts are undertaken to identify, scout, acknowledge, support and reward proven student ideas and innovations and to further facilitate their entrepreneurial journey.
 - d. For strengthening the innovation funnel of the institute, access to financing is opened for the potential entrepreneurs.
 - i. Networking events are organized to create a platform for the budding entrepreneurs to meet investors and pitch their ideas.
 - ii. Provide business incubation facilities: premises at subsidized cost. Laboratories, research facilities, IT services, training, mentoring, etc. should be accessible to the new startups.

- iii. A culture is promoted to understand that money is not FREE and is risk capital. The entrepreneur must utilize these funds and return. While funding is taking risk on the entrepreneur, it is an obligation of the entrepreneur to make every effort possible to prove that the funding agency did right in funding him/ her.
- e. PCE envisages to develop a ready reckoner of Innovation Tool Kit, which must be kept on the homepage on the institute's website to answer the doubts and queries of the innovators and enlisting the facilities available at the institute.

7. Norms for Faculty Startups

- a. For better coordination of the entrepreneurial activities, norms for faculty to do startups are being created by the institutes.
 - i. Roles of faculty may vary from being an owner/ direct promoter, mentor, consultant or as on-board member of the startup.
 - ii. PCE is developing a policy on 'conflict of interests' to ensure that the regular duties of the faculty don't suffer owing to his/her involvement in the startup activities.
 - iii. Faculty startup may consist of faculty members alone or with students or with faculty of other institutes or with alumni or with other entrepreneurs.
- b. Faculty must clearly separate and distinguish on-going research at the institute from the work conducted at the startup/ company.
- c. In case of selection of a faculty start up by an outside national or international accelerator, a maximum leave (as sabbatical/ existing leave/ unpaid leave/ casual leave/ earned leave) of one semester/ year (or even more depending upon the decision of review committee constituted by the institute) may be permitted to the faculty.
- d. Faculty must not accept gifts from the startup.
- e. Faculty must not involve research staff or other staff of the institute in activities at the

startup and vice-versa.

- f. Human subject related research in startups should get clearance from the ethics committee of the institution.

8. Pedagogy and Learning Interventions for Entrepreneurship Development

- a. PCE has adopted a diversified approach to produce desirable learning outcomes, which should include cross disciplinary learning using mentors, labs, case studies, games, etc. in place of traditional lecture-based delivery.
 - i. Student clubs/ bodies/ departments are created for organizing competitions, bootcamps, workshops, awards, etc. These bodies should be involved in institutional strategy planning to ensure enhancement of the student's thinking and responding ability.
 - ii. PCE has started annual 'INNOVATION & ENTREPRENEURSHIP AWARD' to recognize outstanding ideas, successful enterprises and contributors for promoting innovation and enterprises ecosystem within the institute.
 - iii. For creating awareness among the students, the teaching methods should include case studies on business failure and real-life experience reports by startups.
 - iv. Tolerating and encouraging failures: Failures need to be elaborately discussed and debated to imbibe that failure is a part of life, thus helping in reducing the social stigma associated with it. Very importantly, this should be a part of the institute's philosophy and culture.
 - v. Innovation champions should be nominated from within the students/ faculty/ staff for each department/ stream of study.
- b. Entrepreneurship education should be imparted to students at curricular/ co-curricular/ extra- curricular level through elective/ short term or long-term courses on innovation,

entrepreneurship and venture development. Validated learning outcomes should be made available to the students.

- i. Integration of expertise of the external stakeholders should be done in the entrepreneurship education to evolve a culture of collaboration and engagement with the external environment.
 - ii. In the beginning of every academic session, the institute should conduct an induction program about the importance of I&E so that freshly inducted students are made aware about the entrepreneurial agenda of the institute and available support systems. Curriculum for entrepreneurship education should be continuously updated based on entrepreneurship research outcomes. This should also include case studies on failures.
 - iii. Industry linkages should be leveraged for conducting research and survey on trends in technology, research, innovation, and market intelligence.
 - iv. Sensitization of students should be done for their understanding of expected learning outcomes.
 - v. Student innovators, startups, experts must be engaged in the dialogue process while developing the strategy so that it becomes need based.
 - vi. Customized teaching and training materials should be developed for startups.
 - vii. It must be noted that not everyone can become an entrepreneur. The entrepreneur is a leader, who would convert an innovation successfully into a product, others may join the leader and work for the startup. It is important to understand that entrepreneurship is about risk taking. One must carefully evaluate whether a student is capable and willing to take risk.
- c. Pedagogical changes need to be done to ensure that the maximum number of student projects and innovations are based around real life challenges. Learning interventions developed by the institutes for inculcating entrepreneurial culture should be constantly reviewed and updated.

9. Collaboration, Co-creation, Business Relationships and Knowledge Exchange

- a. Stakeholder engagement should be given prime importance in the entrepreneurial agenda of the institute. Institutes should find potential partners, resource organizations, micro, small and medium- sized enterprises (MSMEs), social enterprises, schools, alumni, professional bodies and entrepreneurs to support entrepreneurship and co-design the programs.
 - i. To encourage co-creation, bi-directional flow/ exchange of knowledge and people should be ensured between institutes such as incubators, science parks, etc.
 - ii. Institute should organize networking events for better engagement of collaborators and should open up the opportunities for staff, faculty and students to allow constant flow of ideas and knowledge through meetings, workshops, space for collaboration, lectures, etc.
 - iii. Mechanism should be developed by the institute to capitalize on the knowledge gained through these collaborations.
 - iv. First focus of the incubator should be to create successful ventures.
- b. The institute should develop policy and guidelines for forming and managing the relationships with external stakeholders including private industries.
- c. Knowledge exchange through collaboration and partnership should be made a part of institutional policy and PCE endeavors provide support mechanisms and guidance for creating, managing and coordinating these relationships.
 - i. Through formal and informal mechanisms such as internships, teaching and research exchange programmes, clubs, social gatherings, etc., faculty, staff and students of the institutes should be given the opportunities to connect with their external environment.

- ii. Connect of the institute with the external environment must be leveraged in form of absorbing information and experience from the external ecosystem into the institute's environment.
- iii. Single Point of Contact (SPOC) mechanism should be created in the institute for the students, faculty, collaborators, partners and other stakeholders to ensure access to information.
- iv. Mechanisms should be devised by the institutions to ensure maximum exploitation of entrepreneurial opportunities with industrial and commercial collaborators.
- v. Knowledge management should be done by the institute through development of innovation knowledge platforms using inhouse Information & Communication Technology (ICT) capabilities.

10. Entrepreneurial Impact Assessment

- a. Impact assessment of the institute's entrepreneurial initiatives such as pre-incubation, incubation, entrepreneurship education should be performed regularly using well defined evaluation parameters and processes.
 - i. Monitoring and evaluation of knowledge exchange initiatives, engagement of all departments and faculty in the entrepreneurial teaching and learning should be assessed.
 - ii. Number of startups created, support system provided at the institutional level and satisfaction of participants, new business relationships created by the institutes should be recorded and used for impact assessment.
 - iii. Impact should also be measured for the support system provided by the institute to the student entrepreneurs, faculty and staff for pre-incubation, incubation, IPR protection, industry linkages, exposure to entrepreneurial ecosystem, etc.

- b. Formulation of strategy and impact assessment should go hand in hand. The information on impact of the activities should be actively used while developing and reviewing the entrepreneurial strategy.
 - c. Impact assessment for measuring the success should be in terms of sustainable social, financial and technological impact in the market. For innovations at the pre-commercial stage, development of sustainable enterprise models is critical. COMMERCIAL success is the ONLY measure in the long run.
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