

ROLE OF EDUCATIONAL INSTITUTES IN DESIGN AND START-UP ECOSYSTEM OF PUNE, INDIA

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ABSTRACT:

It's a well-established fact that educational institutes by making available talent across the skill set spectrum contribute to the economic activity of any city/region. This has been true in case of science, technology, engineering and management education. However, in the past few years flourishing entrepreneurial activity in Pune - India has changed the dynamics of the engagement between educational institutions and industry.

The most interesting interplay is between the design schools and the start-ups. Pune has traditionally been a thriving city for entrepreneurship, specifically in manufacturing, IT services and automotive. In the last decade, Pune emerged as the destination for start-ups and this coincided with the rise of design education in the city. Start-up equipped with the attitude of building and making products, services and systems soon found value in design thinking being taught in design schools around them.

The traditional models of industry engagement in terms of internships, projects and mentoring by industry experts although relevant were not matching up to the expectations of the start-ups. For the design schools as well it was difficult to re-orient their course structure and pedagogy to meet the rapidly changing- qualitative and quantitative requirement of the start-ups.

Alternate models were required to enable a dynamic engagement between design and the start-up world. This paper discuss the initiatives of Pune based MIT Institute of Design where in multiple platform were created to facilitate the interaction between design and the various players of the with the start-up ecosystem.

MIT Technology Business Incubator and Edugild were the two organisations that were formed in response to this growing need of engaging actively with the start-up world. The objective of TBI is to commercialise technologies that are identified / developed by students and incubate early stage ideas. Edugild is an accelerator that will help scale up the ideas that have already shown potential and need further support to go to the next level.

Pune as the locus of these activities had a prominent role to play. Various geographical, cultural, historical, economic and social reasons had influenced the ethos and system of industries and academic institutions of Pune. Historically, Pune had a vibrant academic culture that complemented the industrial growth and development of the city. The paper

explains how this synergy was leveraged and the various aspects of Pune as a city were considered in starting these two initiatives.

The paper further discusses how these initiatives will connect up with the academic structure of MIT ID. Design being in critical at all stages of the start-up life cycle there are multiple touch points for the design students to associate. Since the students contribute not only in traditional “disciplines” of design but look at the overall business scenario holistically, the rigour of the design process and maturity of the design solutions is enhanced. Lastly, the paper proposes a framework that can be used to map the “place” value and contextualise it to the design academics.

Keywords: Pune, Design hub, start-up hub, incubation

1. ABOUT PUNE

Pune has a recorded history of over 1000 years. Pune has been a seat of political power since 9th century and when Rashtrakuta rulers ruled over the city. Pune gradually became the important city as the Maratha Empire grew under the leadership of Shivaji Maharaj. (Pune Municipal Corporation, 2006)

The Maratha rule continued till 1800s and made Pune as the cultural capital of Maharashtra.

The British rule in Pune started 1818 during which the British developed Pune as military and cantonment base. During British rule and after independence large some of the important institutions were established in Pune that enabled it to become a base for engineering, R&D, manufacturing, and defence related activities.

From the 19th century, Pune developed as an educational hub with the establishment of The Deccan College, Engineering College, and Fergusson College.

Pune is an educational, cultural and industrial hub. There is continuity in the tradition and cultural values and is evident in the city arts, architecture, culinary customs, music, literature etc. The prominent educational institutions and the vibrant socio-cultural environment led to emergence of Pune as city with overall good quality of life.

A well-qualified talent base, connectivity and proximity of Mumbai helped Pune become one of the preferred destinations for industrial activity. Kirloskar, Tata Motors, Mercedes, Bajaj, Bharat Forge, were some of the early companies who started their manufacturing base in Pune. This led to other small and medium enterprises to flourish and Pune became an important destination for automobile, auto-component and engineering industry.

In the 1990's as India opened doors to world economy Pune become one of the preferred centres for the IT sector and many companies set up their base here.

With a population of 5 mn +, Pune now is the 9th largest city in India and 71st largest city in the world. Spread over 700 Sq. Km Pune is now listed in the Smart City plan of Union Government. (Govt. of India - Census Website, 2015)

2. START-UP CULTURE IN INDIA

Historically, entrepreneurship has always been an important feature of Indian economy. Since centuries, a large part of this entrepreneurial activity is in the informal sector. Informal businesses constitute 75% of all Indian businesses, making this one of the largest informal economies in the world. This includes a variety of cottage industry, village industries such as smiths, garment-makers, craftsmen, traders and large of service providers like carpenters, shoemakers, retail shops, restaurants etc. These businesses have been run in traditional ways and as and when technologies and market trends changes they adapted themselves and keep the Indian economy resilient and robust.

Few years after India's independence government also started initiatives to support entrepreneurship by forming an exclusive Small Scale Industries Board (SSIB) to promote modern small-scale industries (SSI) in the country. This helped the Indian economy to transition in the modern technology enabled entrepreneurship largely in the manufacturing sector. SMEs contribute increasingly in terms of employment, production and exports. It is estimated that in terms of value, the sector contributes about 45% of the manufacturing output and 40% of total exports of the country. (Bala Subrahmanya, 2015)

However, it's in past 5 years that India has truly reinvented itself and asserted its position as start-up destination. The roots for the recent wave of start-ups can be traced to the economic liberalization in the early 1990s which brought in the information and communication technology (ICT) revolution. Most of the new generation entrepreneurs come with a professional education background or work experience in technology or management domain. (Kasturi & Bala Subrahmanya, 2014) Thus this new age entrepreneurship is a "technology/knowledge-based entrepreneurship," and it is finding interest of venture capitalists, angel investors, and private equities.

2.1 PUNE- A FERTILE GROUND FOR ENTREPRENEURSHIP

From its early days since 1945 Pune saw influx of entrepreneurs who set up business, although largely in automobile and manufacturing sector. However, it was in the 1990s after the Indian economy opened up its doors for global markets and players for business, Pune got a thrust in the entrepreneurial activity.

This growth in entrepreneurial activity was because various factors, however the most important one was the status that Pune enjoyed as educational hub of India. With 8 Universities and 800 institutions, education is one of the important sectors in Pune and is often referred to as the "Oxford of the East". Professional education in engineering, management and medicine also is an important feature of Pune's educational landscape and produces over 12,000 engineering graduates every year. Further there are a large number of market oriented vocational training courses like especially in automotive domain offered by polytechnics and Industrial Training Institutes. Apart from the educational institutes Pune also a strong presence of high quality research institutions like Indian Institute of Science Education and Research (IISER), Centre for Development of Advanced Computing (CDAC),

Automotive Research Association of India (ARAI) and Tata Research Development and Design Centre (TRDDC). (Centre for Innovation Incubation and Entrepreneurship, 2014)

Secondly, the already established industries provided the much needed matured industry presence in Pune. The Pune industry ecosystem mainly consists of Core Engineering, Software Products and IT Services. With IT revolution in 1990s Pune ushered itself in to the new era of technology and government developed software technology parks where many IT businesses were set up. This motivated some of the senior industry professionals who had settled abroad to come back to Pune and start their ventures. Thus a large number of national and international IT companies have set up large campuses in Pune.

This provided a fertile ground and when India saw a rise in start-up activity Pune was able to leverage these important assets to its advantage.

Apart from these two major drivers there are a number of other factors that have led to establishing a start-up ecosystem in Pune.

- Pune attracts a large number of people from all over India/World. Pune has a large number of foreign students, foreign expats, exchange students and tourists. This makes the city very friendly and welcoming and hence many entrepreneurs prefer to set up their ventures here.
- Pune is close to Mumbai which is the financial capital of India and also a large market for various goods and services. This proximity to the financial capital and good quality connectivity has made Pune a preferred destination for many ventures.
- Pune has a pleasant climate all around the year and overall quality of life is quite good as compared to many other cities in India.
- Pune had a good presence of techno-savvy investors who took risks and invested the necessary seed capital to early ventures. The successful technology entrepreneurs of the 1990s who were successful did invest and actively sought potential ideas to fund.
- Pune is also a cultural capital of Maharashtra with a rich tradition and vibrant culture. Pune also has retained its small town charm and is hub for cultural activities like festivals, arts, theater, literature, film and music. Thus Pune is a melting pot for new ideas which enhances the overall creative quotient of the city. (Paranjape, 2015)

Thus the above discussion shows how Pune has become of the promising start-up destinations of India. The details given below give a snapshot of the Pune's start-up status.

- 21% of country's product start-ups are from Pune.
- Pune has the highest number of micro, small and medium enterprises (MSMEs) in the state.
- Pune received 11.5% of India's angel investments between 2005-12
- Pune hosts 350+ corporate innovation centres and is the R&D hub for various domestic and global corporates
- 11% application in NASSCOM 10k Start-ups came from Pune. (Centre for Innovation Incubation and Entrepreneurship, 2014)

3 PUNE START-UP ECOSYSTEM AND MIT GROUP

3.1 ABOUT MAEERS MIT

MAEER (Maharashtra Academy of Engineering Education & Research) was the first step of the revolution in the education scenario of Maharashtra. Maharashtra, the third largest state in the country, with a rich heritage, known as the land of saints and also, the one which gave great leaders to the world had yet to progressed in the field of education. This realization embarked the journey of MAEER - in 1983 with the establishment of Maharashtra Institute of Technology (MIT), one of the first private engineering college in Maharashtra which still remains the flagship institute of the group.

Since then, the MIT Group of Institutions have grown leaps and bounds and has made a strong impact in the field of education throughout the country. With more than 10 campuses in the state of Maharashtra covering almost 1000 acres of area, the MIT Group provides education in the fields of Engineering, Medicine, Pharmacy, Marine Engineering, Insurance, Distance Education, Telecom Management, Lighting, Design, Food & Technology, Retail Management, Masters in Business Administration, School of Government and also School Education. At any given point of time, more than 50000 students are pursuing various courses across 65+ institutes. (Maharashtra Institute of Technology, Pune)

3.2 ABOUT MIT INSTITUTE OF DESIGN

MIT Institute of Design is a premier centre for Design education, practice and research in India and is part of the MAEER. In 2005, MAEER realised the need to have an institution which will create professionals who are not only technically sound but also are sensitive to the immediate socio-economic needs and capable of creating culturally relevant solutions for the problems around them. In this context MAEER group approached Prof. H. Kumar Vyas, father of Design education in India. Prof. H Kumar Vyas helped MAEER to put together a core team of design professionals from academia and industry to start MIT ID. MIT ID is located in the Rajbaug farms spread over a vast area of 125 acres on the beautiful banks of the Mula-Mutha River at Loni-Kalbhor, Pune.

MIT ID offers fulltime Undergraduate (4 year) and Post Graduate(2 year) programs in three domains of Design- Industrial Design, Communication Design and Fashion Design. (MIT Institute of Design, 2015)

A strong connect with the industry is the reason why the students graduating from MIT ID have got a very positive response from the industry. MIT ID engaged with the industry in traditional ways like internship, live projects etc . However, looking at the growth and development of Pune as a start-up hub MIT group also reinvented its modes of engagement with the industry.

Design has an important role to play in the start-up ecosystem. Realizing this MIT group launched two initiatives; MIT Technology Business Incubator and Edugild. MIT ID also refined its program structure to accommodate these initiatives by introducing courses on Design & Business.

3.3 MIT TECHNOLOGY BUSINESS INCUBATOR

MIT TBI- MIT Group of Institutions initiated the "MIT Technology Business Incubator" which is a self-sustainable entity for the socio-economic growth of the society. The objective is to kick-start an idea of an innovator and brings the product to life. The aim is not just to creating a successful product, but to build an entrepreneur who acquires the potential of generating employment in the future through his/hers innovation.

The thrust area is production, product design, manufacturing and system integration. MIT ITBI provides various facilities to the registered potential entrepreneurs. The aim is to market these products and promote innovators who can make a niche for themselves, not just within the country but globally. MIT ITBI also has Technical and Administrative support to guide and assist the budding entrepreneurs. Thus encouraging young innovators to mass produce their creation and establish themselves as successful entrepreneurs.

MIT TBI set up with the help of Venture Centre which is part of National Chemical Laboratory (NCL). The Venture Center is India's largest science business incubator.

The Venture Center is a technology business incubator specializing in technology startups offering products and services exploiting scientific expertise in the areas of materials, chemicals and biological sciences & engineering. Venture Center strives to nucleate and nurture technology and knowledge-based enterprises by leveraging the scientific and engineering competencies of the institutions in the "Pune region" in India. (Venture Centre, 2015)

The Venture Center is a not-for-profit company hosted by the National Chemical Laboratory, Pune, India. National Chemical Laboratory (CSIR-NCL), Pune, established in 1950, is a constituent laboratory of Council of Scientific and Industrial Research (CSIR).

Since its inception, MIT TBI and MIT ID have collaborated on various fronts. MIT ID alumni have been supported help MIT TBI to set up their ventures. Although at an early stage these ventures have shown good promise and scalability. MIT TBI regularly conducts workshops and sessions for the MIT ID students to encourage them to take up an entrepreneurial route for the academic projects. MIT TBI and MIT ID have also developed an internship program wherein students' teams MIT Engineering college and MIT ID can jointly work on innovative ideas that can be nurtured in to business ventures.

3.4 EDUGILD- INDIA'S FIRST EDTECH STARTUP ACCELERATOR

Another initiative by MIT group is Edugild which is India's first accelerator with exclusive focus on EdTech. EDUGILD offers a 16-week intensive mentorship and product realization program to any EdTech start-up in the world. Participants with creative technology-based ideas to improve and enhance the learning experience in any Field are welcome to apply.

EDUGILD is dedicated to supporting start-ups involved in the creative use of technology for effectively enhancing learning experience in any field, supported by a world class panel of liberal minds, successful entrepreneurs, institutions, mentors and investors. Typically start-ups will be ready for EDUGILD when fundamental research, concept development and initial

feasibility have been completed. Selected start-ups will receive seed Funds of Rs. 15,00,000 in return for a equity stake at the start of their 16 week in-residence mentorship program based in Pune.

EDUGILD's vision is to empower learning. This will be achieved by providing a conducive environment to technology-based start-ups resulting in producing innovative and creative educational products and services. EDUGILD accelerator program is dedicated to startups working in the EdTech space. Start-up founders work along with an equally passionate peer group to develop their creative ideas. Mentors with a variety of specialty areas provide their expertise and guidance and create an environment that encourages the spirit of innovation, challenges, and calculated risk-taking. Start-ups that have launched products in the past but reached a plateau and need a second boost are also encouraged to apply.

3.4 DESIGN & BUSINESS COURSE AT MIT ID

Both MIT TBI and Edugild provide a support system when the students are ready with an idea. However, to ensure that the students understand the relationship between Design and business clearly, MIT ID also has introduced the course on Design & Business. This course enables the students to understand and appreciate the value that Design brings to a business and especially how critical is Design as tool and resource at the early stage of a venture. Following were the key considerations to develop the course.

- The course should be run in workshop/studio format
- The course should break away from the "functional" view of Business and adopt a more broad-based view and value of Design can be explicitly identified.
- The course should rationally acknowledge the changing nature of Business and its role in society
- Each learner/group should be able to carve out a learning path appropriate to their existing knowledge and interest level. (MIT Institute of Design, 2015)

Based on these drivers, the Business Model Generation framework was adopted for the course. The students are first introduced to the Business Model Canvas (Osterwalder & Pigneur, 2010) as a tool to understand the various processes and constituents of a business. Then through a boot camp on entrepreneurship the students are taken through how academic projects can be taken to the next level towards real life ventures. The objective of boot camp is primarily to motivate and inspire learners and hence essentially is conducted by young professionals who either have worked with or run their own start-ups.

These three initiatives can be understood in a better way as a model that has following components

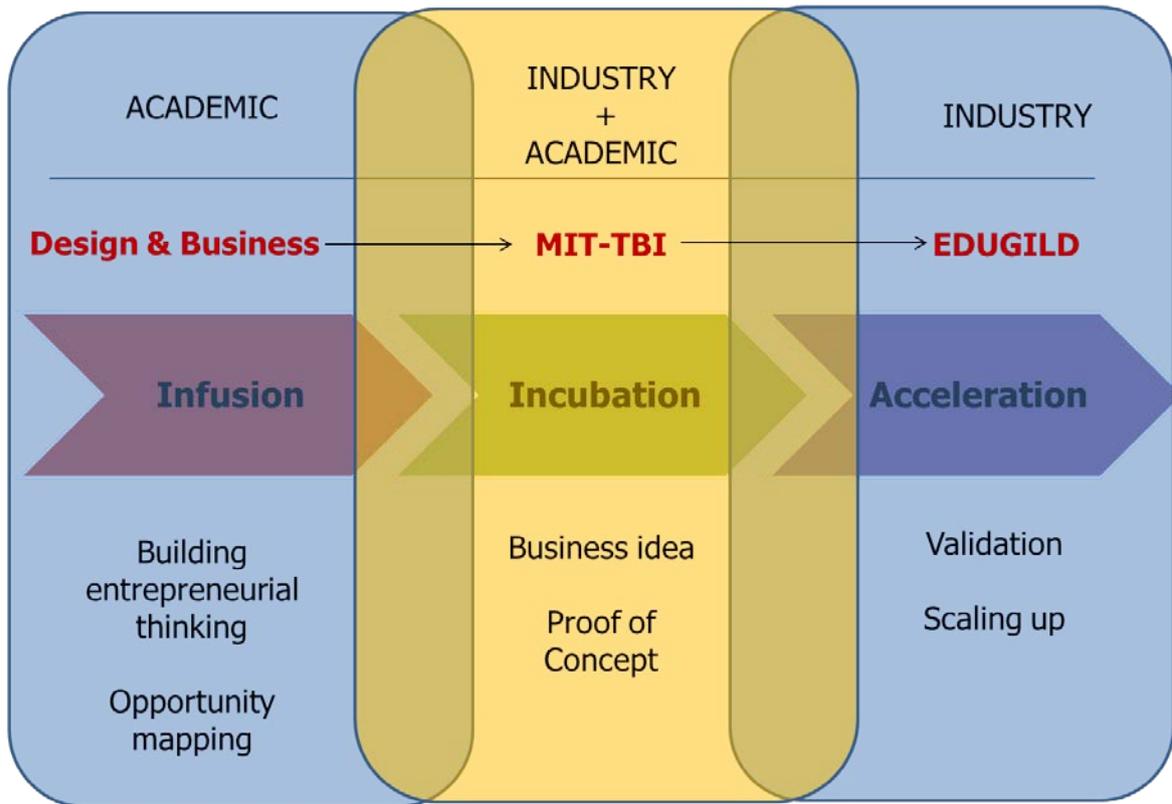


Figure 1: Framework for integration of MIT ID academics with start-up ecosystem

4. CONCLUSION

Pune as a place offers an interesting mix of diverse cultures, talent pool and industry support to develop itself into a start-up hub of India. Having understood the value that Design brings to the start-up ecosystem MIT ID has taken timely initiative that enables to take advantage of these strengths of Pune. These initiatives are well integrated in the academic framework and the early results are promising. There is a rising awareness among the students about entrepreneurship and starting up. Also few students and alumni have started their ventures that are being mentored and supported through these initiatives.

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