

THE BUDDING ENTREPRENEURIAL ECOSYSTEM IN AHMEDABAD

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Abstract: Ahmedabad, a major city of ‘the land of entrepreneurs’ is speculated by experts to have atleast 5,000 startups and is being touted as an entrepreneurship hub. With the emerging entrepreneurial ecosystem in the city, this paper attempts to gauge which elements of an entrepreneurial ecosystem Ahmedabad has, which need development and which are completely amiss. The paper maps the current scenario of Ahmedabad with Isenberg’s framework of elements of an entrepreneurial ecosystem. The learnings can be used towards strategic planning for Ahmedabad to become a robust entrepreneurial ecosystem.

Introduction:

Background:

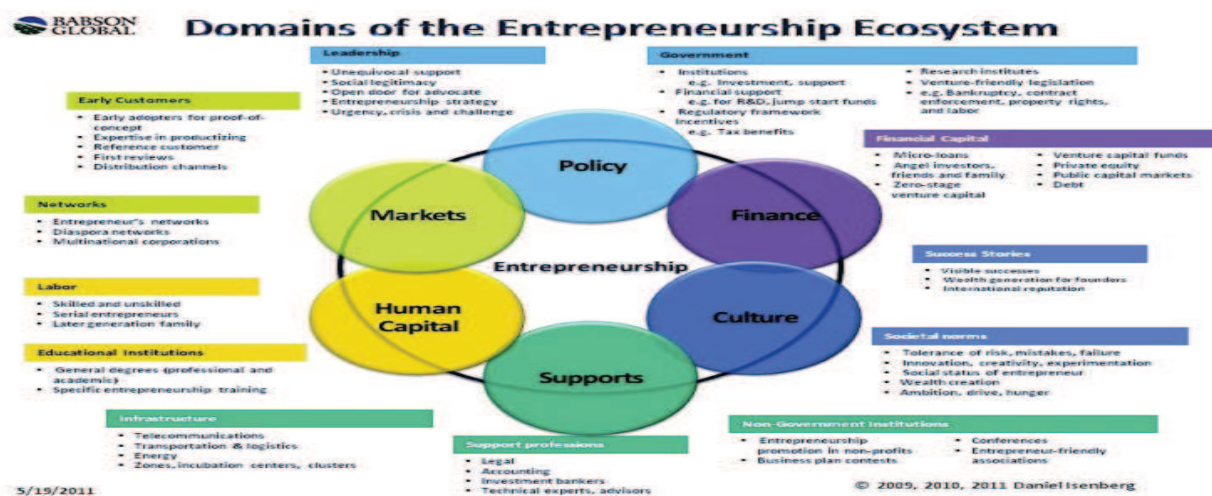
Entrepreneurial Ecosystem: The term entrepreneur has been defined multifariously in literature. 19th century British economist J.S. Mill defines an entrepreneur as a “risk taker” while early 20th century economist J.A. Schumpeter defines it as an “innovator”. The disparity prolongs to contemporary literature. According to Brockhaus, an entrepreneur is anyone who starts business. While this definition is simplified, it befits the primary focus of this study to understand the entrepreneurial ecosystem (Brockhaus 1987).

The entrepreneur is a complex individual with certain characteristics of education, attitudes toward risk, alertness to opportunities, assets, etc. The entrepreneurial decision or response is determined by how individuals with certain characteristics generally act in the face of a given set of circumstances. This "set of circumstances" is what constitutes the entrepreneurial environment (Solomon, 1985).

An ecosystem refers to the complex of organisms and their environment interacting as a unit. Organisms -- human and otherwise -- are affected by their

environments (Valdez) (Sahay) (Entrepreneurship in India, 2008) (Shah) (Bhatt) (Bulsara). The systematic study of environments is rooted in the biological sciences where the term ecology is most commonly applied to the natural habitats of animals. Human ecology is a more recent term extending to the domain of geographers and sociologists who are interested in the distributions of human populations. The term social ecology has evolved mainly from the efforts of behavioral scientists to direct their inquiries toward a more complete view of man interacting with his physical and social environment (Moos and Insul, 1974).

The concept of entrepreneurial environment is rich and complex. The entrepreneur, like other individuals do not make decisions in a vacuum. Simon (1954) hypothesizes that "rational behavior is contingent upon the structure of the environment". Entrepreneurs are responsive to opportunities. The structure of the environment in which individuals find themselves impinges directly and indirectly as a complex and significant set of influences. The environment in which the entrepreneur finds himself contains an array of factors which may impede or enhance entrepreneurial vigor (Kirzner, 1973).



Economic development is the result of a complex entrepreneurial process. Entrepreneurship can be

stimulated when the needs of entrepreneurs find support at different levels. This kind of environment encourages innovation and the creation of new ventures and permits interaction among the various actors (source: www.aei2013.ch).

Studies have shown that researchers tend to focus on the character of the individual entrepreneur, and sometimes to underestimate the actions of multiple actors (private and public) who facilitate the creation of performing entrepreneurial ecosystems (Van de Van, 1993) (source: www.aei2013.ch).

It takes more than developing ventures in order to develop a community: infrastructures, public institutions, established companies are needed, who can work together within advanced and productive systems. The ecosystem concept was defined by (Moore, 1993) as “an economic community sustained by interaction of individuals and organizations” (Hurley, 2009). Such an ecosystem is therefore like a group of interdependent actors within the same geographic area, who influence the creation and even the path of the group of actors, the global, macro-economic development of the entire region, even the economy as a whole (*Spilling*, 1996; *Iansiti and Levien*, 2004; *Prevezer*, 2001; *Shepherd*, 1987; *Florida and Kenney*, 1988) (source: www.aei2013.ch).

Elements of an Entrepreneurial Ecosystem:

Daniel Isenberg, Professor of the Management Practice at Babson Global and founder of the Babson Entrepreneurship Ecosystem Project (BEEP), has developed a framework of the elements necessary for a fully-fledged entrepreneurship ecosystem.

The Entrepreneurial Ecosystem is composed of six interacting elements or domains (policy, finance, markets, culture, human capital, supports), each including sub-elements, which influence the formation and path of the entrepreneurs and ventures within a geographic region (Isenberg, 2011).

Mapping the elements:

Entrepreneurial ecosystem of Ahmedabad: The business skills of Ahmedabad and its indigenous entrepreneurship, sets it apart from most Indian cities. The leadership which brought industry to the city was, and remains, Gujarati. The people of Ahmedabad are intensely concerned with the status and progress of the city.

Traders and financiers have long occupied important position in the city and their activities generated wealth in the city. Each community residing in Ahmedabad specialises in particular activities. The established financial and trading firms of the Hindus and Jains played a big role in raising industrial capital in the city. The Muslims were weavers and officials. In the 19th century, due to flourishing trade, other groups such as Patidars and Parsis too rose in social hierarchy. Presently Ahmedabad is the commercial

capital of the state of Gujarat, it is also a major industrial and financial city contributing about 14% of the total investments in all stock exchanges in India and 60% of the total productivity of the state.

Ahmedabad is located in one of the highly industrialized and urbanized parts of Gujarat State. It is the seventh largest metropolis in India. In 1991 about 75 per cent of the population of Ahmedabad district was identified as being urban. The Ahmedabad Urban Agglomeration (UA) (3.31 million in 1991) accounted for 92.2 per cent of the district's urban population in 1991 and housed a quarter of the state's urban population.

The 1990s decade is seen as the decade of revival of the city economy. The macro economic reforms initiated in the country provided a major boost for the local entrepreneurs and the restructuring of the economy started with increased investments in industry, trade and construction. In the 1990s the city emerged as the financial capital of the state.

The local government has also been making conscious efforts to revive the local economy through the provision of better infrastructure and improved governance.

This paper maps the elements of an entrepreneurial ecosystem with Ahmedabad. This would bring out the strengths and weaknesses of the ecosystem of the city for entrepreneurs. The learnings from this paper would be inputs for building a strong entrepreneurial ecosystem in Ahmedabad.

Policy: As a result of the proliferating emphasis on entrepreneurship as the driving force to economic development and job creation, policy makers at the macro level have generated and implemented a comprehensive system for venture-support (McMullan & Long, 1987). Essentially, there are many facets to these venture-support initiatives or entrepreneurship framework conditions (as termed by the GEM research group), ranging from areas such as the country's financial policy, government policy, education system, physical, commercial, and communication infrastructure, to esoteric conditions such as the nation's cultural-social norms. Thus, there is no question about the government's intervention in a wide spectrum of areas to spur entrepreneurial activities in the country (Lee).

Ahmedabad is located in Gujarat which is looked upon as a model state for its economic progress and development. Its significant contribution to Indian Economy has been notable in World Economy. Emerging as 'Investor friendly' destinations in the country, Gujarat highlights a lifestyle of business and entrepreneurship.

Gujarat's Industrial Policy 2009 is geared for catalyzing robust, sustainable and inclusive growth. The Industry in Gujarat has evoked new models of

development. Special Industrial Regions (SIRs), Special Economic Zones (SEZs), Industrial Estates and Industrial Parks have promoted entrepreneurs and business growth in Gujarat. Increasing Industrial activity in Gujarat has led to become a fertile ground for businesses to develop.

For emerging areas like IT and Biotech, the State has made conducive policies for entrepreneurs. The IT Policy with objective to attract investment to the tune of Rs. 5000 crores in five years and develop employment opportunity for 2,00,000 people in five years is setting up IT parks, and will facilitate the grant of SEZ status to these IT parks. Moreover, the government is committed to enhance the quality of the talent pool in the IT sector. The State government has launched an online Employment Exchange System. The State has also developed a certification mechanism with NASSCOM to an individual's training needs. IT and ITES units will be eligible for exemption from power cuts. They have made liberal electricity norms for such units and more. According to a Nasscom report, Surat and Ahmedabad are now positioning themselves on the country's IT map.

Highlights of the Agro policies of the State:

- Tiny, small, medium and large agro industrial units offered a 6% back ended subsidy for five years on the interest on term loan upto a maximum of Rs. 100 lakhs.
- Agri-infrastructure projects offered a 6% back ended subsidy for five years on the interest on term loan upto a maximum of Rs. 400 lakhs.
- Reimbursement of 50% expenditure of the cost of project report preparation to individuals /institutions upto Rs. 5 lakhs.
- Assistance for quality certification mark to small and tiny units upto 50% of the cost with a ceiling of Rs. 5 lakhs.
- Assistance for patent registration upto 50% of the cost with a ceiling of Rs. 5 lakhs
- 50% subsidy provided on the cost of sending samples and the cost of getting samples upto a limit Rs. 50,000/-
- 50% subsidy on research and development for improvement in quality of agriculture produce upto a ceiling of Rs. 20 lakhs.

Source: (Gujarat Agro Policy , 2000)

Promotional schemes are also being offered by Gujarat Industrial Development Corporation.

Ahmedabad was also considered a key city for feedback on the draft National Entrepreneurship Policy proposed for India.

Gujarat state is recognized for its vibrancy and entrepreneurial spirit. The state has a new set of objectives to meet the fast paced globalization drive that is captivating most successful economies today.

Entrepreneurs in Gujarat rise above domestic competition with other states to compete in today's globalized economy (Industries Commissionerate, Government of Gujarat).

The State Government policies aim to set up the right kind of business climate, improve quality of life of the people and thus promote overall development of the economy. They have a roadmap for bolstering the industrial climate of the State. They also envisage various incentives and schemes for the investors Industries Commissionerate, Government of Gujarat.

Finance: Venture capital, which is a means of financing growing private companies, is provided by venture capital funds, both in public and private sectors. Finance may be required as seed capital, for the startup, for development/expansion and more. There are various ways to fund new business and its growth. Some of these include the founder's personal capital, debt financing or equity partnerships. Typically, a venture capitalist would offer requisite funding in return of an agreed upon equity in the company. Equity finance versus a loan offers the advantage of no interest charges. It is a patient capital that seeks a return through long-term capital gain rather than immediate and regular interest payments. Angel and venture capital investors are, therefore, exposed to the risk of the company failing (www.venturefundingnetwork.com).

Surveys, worldwide, consistently rate the management support as the most important contribution of a venture capital firm. There are many sources of capital, but only a venture capitalist can provide experienced management input gained by helping many other companies successfully conquer the inevitable problems and growing pains (www.venturefundingnetwork.com).

Venture capital is a source of investment in the form of seed capital in unproven areas, products or startup situations. The concept of venture capital is relatively new to the Indian economy, and is gaining prominence in the recent years (www.venturefundingnetwork.com).

There are no Venture Capitalists based in Ahmedabad except GVFL. Though, recently many VCs other cities like Mumbai and Bangalore are turning towards Ahmedabad for their operations.

GVFL Limited is known to have pioneered the trend of Venture capital firms in India. Previously called Gujarat Venture Finance Limited, it is an independent, autonomous body based out of Ahmedabad. GVFL Ltd has, since 1990, raised a cumulative corpus of Rs 136.2 crore and is in the process of raising a dedicated SME Fund (source: www.gvfl.com).

GVFL has supported around 80 companies though 7 funds, over the last two decades. GVFL's USP lies in

its approach whereby they not only offer capital to the ventures but also offer broad spectrum support including strategic mentoring to governance. GVFL Though GVFL has carved a niche for itself in start-up companies segment in various sectors and encourages innovation based entrepreneurship. It makes investments in growth stage for cutting-edge technology and infrastructure sector, including clean technology, renewable energy and urban infrastructure. The emphasis is on technology-based companies, which have proven track record, established business and revenue model, sound management, high expected growth and clear visibility of exit (source: www.gvfl.com).

GVFL seeks to develop next generation business leaders who build sustainable organizations, deliver better results and in process share the rewards (source: www.gvfl.com). The vision of GVFL also fuels the growth of entrepreneurial ecosystem.

Angel Funding: An angel investor is a well-off individual who provides capital for a venture/start-up, typically in exchange a stake in the venture (a convertible debt or equity). Angel investors are often sought through angel networks where they may pool their investment capital.

Angels generally-speaking invest their own funds contrary to VCs, who professionally manage the pooled money of others in form of a fund. Angels may be individuals or more often, the modality of providing funds may be through a trust, investment fund, business etc. Angel funding in the intermediate fund, which bridges the gap between 'initial fund' (more commonly called seed fund) from friends and family and the 'venture capital'.

Ahmedabad has many informal Angel Investor but recently Mr. Sunil Parekh has started an Angel Investors network for the benefit of entrepreneurs and start-ups ecosystem of Ahmedabad.

Mr. Sunil Parekh is Founding Curator at the World Economic Forum WEF Geneva (Global Shapers initiative). His current Corporate engagements include: Advisor to, Zydus Group, Suzlon Energy, Board Member of: 1] Two Innovation Business Incubators NDBI at NID and CIIE at IIMA; 2] Gujarat Institute of Development Research GIDR; 3] Consumer Education & Research Centre CERC; 4] Grass Root Innovation GIAN at IIMA.

Apart from VCs and Angels all notable nationalized banks have their presence in Ahmedabad and these banks offer various micro loans and other loans useful for entrepreneurs.

has made 59 successful exits out of the 81 they have funded (www.gvfl.com).

Culture: Ahmedabad is the land where entrepreneurs have made their own fortunes with sheer hard work and dedication. The inherent spirit of adventure and the huge appetite for risk have led the Gujaratis to phenomenal success in their businesses (Business Line, 2013).

Karsanbhai Patel of Nirma, Gautam Adani of Adani group, Girish Patel of Paras Pharma, Jaysukh Patel of Ajanta, Khambattas of Rasna, Pankaj Patel of Zydus are some of the well known entrepreneurs from Ahmedabad who have made it big.

As Dinesh Awasthi, Director of Entrepreneurship Development Institute, Ahmedabad, says that the entire ecosystem of Gujarati culture works around entrepreneurship. "Entrepreneurship is in their blood. No doubt in that. Gujarati children are exposed to money making businesses early on. Even in social gatherings people talk about business rather than bureaucracy, politics, or literature. By the time a person comes out of college he would have a role model in one or other successful businessman.

While, the city is known for the entrepreneurial spirit of its people, there is scope for programs which promote startups and aspiring entrepreneurs. Of late, quite a few such programmes are running in Ahmedabad which foster entrepreneurial culture. Some of them are described below.

International Centre for Entrepreneurship and Technology (iCreate) has begun the grooming programme for its first batch of entrepreneurs. After its launch in September 2011, the centre has now finalised nine promising profiles of aspiring entrepreneurs, who want to get their ideas incubated (Times of India, 2013).

The aim of the grooming programme is to equip aspirants with the right mix of entrepreneurial skillset, mindset and toolset. Through the course of this 13-week program, among other things, individuals will get to practice how to ideate, evaluate and select an idea, market the idea, build a team and raise finances. At the end of the grooming program, the participants have a choice and an opportunity to pitch their project ideas for incubation and seed funding to iCreate (Times of India, 2013).

The batch comprises a healthy mix of interests, backgrounds and pursuits. The professional work experience of the group ranges from 1-20 years with diverse career. iCreate bets on human talent. It has been set up on the PPP model. Based in Ahmedabad, iCreate encourages and support next generation entrepreneurs from across Gujarat. The centre is guided by an advisory board led by Infosys co-founder N R Narayana Murthy.

Ahmedabad is home to **MentorEdge**, a nationwide mentoring program to provide hand-holding, mentoring and networking support to aspiring entrepreneurs and startups. MentorEdge was born out of the need to cater to the needs of a larger ecosystem, and to create a support structure for enterprises which were not being incubated at CIIE. The network is spread across 8 cities [Delhi, Kolkata, Mumbai, Pune, Ahmedabad, Chennai, Hyderabad and Bangalore], each city having its set of Evangelists who co-ordinate locally with the mentees (www.mentoredge.com).

Venture Studio operates a six-month full-time fellowship program for aspiring entrepreneurs/innovators from engineering, design, business, and arts. The program is oriented towards facilitating the fellows start team-based technology ventures focusing on scalable innovation. The program follows a design methodology based from research conducted in the field of engineering and product innovation, compiled by the Center for Design Research at Stanford University.

SRISTI is a non-governmental organization set up to strengthen the creativity of grassroots inventors, innovators and ecopreneurs engaged in conserving biodiversity and developing eco-friendly solutions to local problems. The primary objectives while setting up the organization were: systematically documenting, disseminating and developing grassroots green innovations, providing intellectual property rights protection to grassroots innovators, working on the in situ and ex situ conservation of local biodiversity, and providing venture support to grassroots innovators. SRISTI manages the Honey Bee database of innovations, and supports the publication of the Network's newsletter in three languages, English, Hindi and Gujarati (www.sristi.org).

Lately SRISTI has been focusing on hitherto neglected domains like women's knowledge systems, value addition through a natural product laboratory, using ICT to establish knowledge network, connecting innovators, traditional knowledge holders with the centres of formal excellence, entrepreneurs etc. and innovations in education (www.sristi.org).

WEF Ahmedabad: The Global Shapers Community is a network of hubs developed and led by young people who are exceptional in their potential, their achievements and their drive to make a contribution to their communities (www.globalshapers.org).

The Global Shapers Community is one of several multi-stakeholder communities at the World Economic Forum. Other communities include the Young Global Leaders, the Global Agenda Councils, and the Schwab Foundation for Social Entrepreneurs. The Global Shapers community is an initiative of World Economic Forum (www.globalshapers.org).

The World Economic Forum is an independent international organization committed to improving the state of the world by engaging business, political, academic and other leaders of society to shape global, regional and industry agendas.

A group of youngsters bubbling with enthusiasm were brought together by Sunil Parekh in the quiet yet dynamic city of Ahmedabad. The shapers of Ahmedabad are motivated individuals selected on the basis of their achievements, leadership potential, and commitment to make a difference. Through the Global Shapers Community, shapers are provided with opportunities to connect with the worldwide network of Global Shapers, to network with other World Economic Forum communities, and to represent the voice of youth at World Economic Forum events. Shapers are united by a common desire to channel the members' tremendous energy and enthusiasm into building a more peaceful and inclusive world. Two shapers from the Ahmedabad hub have represented this hub at the annual WEF meet in Davos, Switzerland and marked in the presence of entrepreneurs of Ahmedabad on the world map.

As one of the global shaper from Ahmedabad hub puts it, "Collectively we found ourselves stronger and united and our unique perspectives brought out the best in each one of us. At times it was fascinating to see how even though we were all from completely different backgrounds, we were on the same page! At other times, diversity brought about differences of opinions but democracy prevailed!" (www.globalshapers.org)

eChai, a Pointio venture based in Ahmedabad is focused on promoting entrepreneurial culture among youth and hosts various programs – eChai – flagship event where entrepreneurs share their journeys, eChai Insights – theme based knowledge sharing sessions, eChai Demo Day – quarterly showcase of innovative products and ventures, and The Rising Sun series – An interview series on – eChai TV – Web television – with inspiring entrepreneurs across industry sectors. All the eChai events are documented on eChai blog and web-television – eChaiTV (www.echai.co).

Support: Ahmedabad is developing excellent urban infrastructure for services economy which is largely an urban phenomenon. Ahmedabad is an industrial base for sectors such as chemicals, textiles, drugs and pharmaceuticals and agro and food processing industries. Textile and Chemicals have been the major sectors of investment and employment in the district, since 1980.

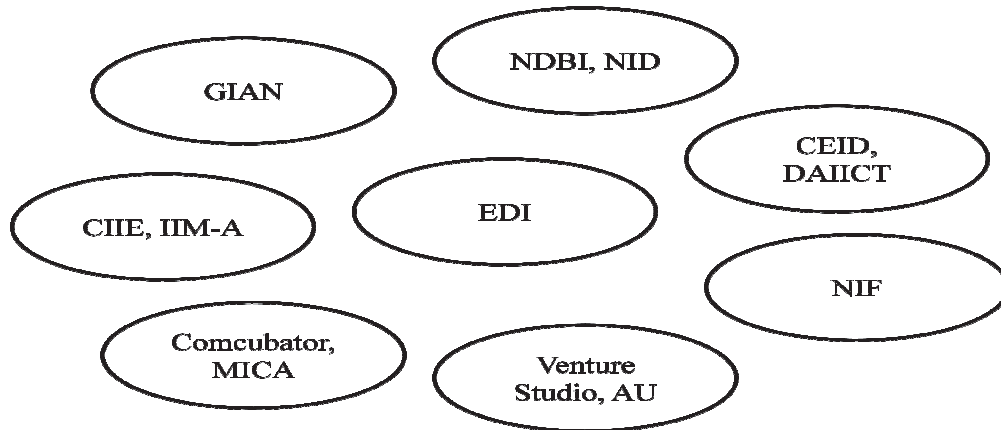
Ahmedabad district accounts for 21.5% of factories and employs 18% of workers in the state. Over 14% of the total investments in all stock exchanges in India

and 60% of the total industrial productivity is contributed by Ahmedabad (www.gujaratgdc.com/district/ahmedabad).

Several business conglomerates such as Adani Group, Reliance Industries, Nirma Group of Industries, Arvind Mills, Claris Life Sciences, Cadilla Pharmaceuticals, Shell, Vadilal Industries Ltd., Rasna, Bosch Rexroth (Germany), Stork and Rollepaal (Netherlands) are present in Ahmedabad. The presence of Ahmedabad Textile Industry's Research Association (ATIRA), the largest association for

textile research and allied industries in India, has helped the city in becoming a thriving textile centre (www.gujaratgdc.com/district/ahmedabad).

There are around 422 medium and large scale industries based in Ahmedabad district with total investment of INR 5,45,988 crore (US\$ 1,33,167 million) providing employment to around 79,904 people (www.gujaratgdc.com/district/ahmedabad). Some of the major medium and large scale players present in Ahmedabad are mentioned in *Annexure II*. Ahmedabad also houses several business incubators.



Centre for Innovation, Incubation and Entrepreneurship was setup at the Indian Institute of Management Ahmedabad (IIM-A) with support from Gujarat Government and Department of Science and Technology (Government of India) to promote innovation and entrepreneurship in India. Experience and expertise at IIMA in the areas of management, innovation, technology networks along with entrepreneurship provide the necessary impetus and intellectual basis for this initiative (www.ciieindia.org).

CIIE comprise of faculty, alumni and students of IIMA, mentors and service providers from the industry who span a variety of functional areas, sectoral domains and geographies and are passionately committed to helping disruptive innovations and aspiring entrepreneurs succeed commercially (www.ciieindia.org).

They understand that it takes more than just early stage risk-capital to get a company off the ground - enable most of what may be required by entrepreneurs through seed-funding, incubation, mentoring, training, knowledge dissemination and best practice research. CIIE is a young organization and they keep innovating to find ways to proliferate the spirit of entrepreneurship across India. It carries out their incubation activities through a Section-25 company set-up to promote entrepreneurship in India (www.ciieindia.org).

Model of CIIE

- Management centered incubator at IIM-A
- Select technology based ideas through national competitions
- Support ideas which have proof of concept
- Provide commendable management & market support
- Have informal tie-ups with various funding agencies
- Take equity in graduating companies
- They have 40 Incubatees at present

Successful graduated company: VMukti

National Design Business Incubator (NDBI) is an educational institution-linked design focussed business incubator. Linked with National Institute of Design (NID), Ahmedabad NDBI is established with support from Department of Science and Technology, Govt. of India. NID is an internationally-renowned multidisciplinary institution in the field of design education, research, training and service. NID has catalyzed dissemination of design awareness amongst Indian industry (www.ndbiindia.org).

The mandate of NDBI is to nurture a culture of entrepreneurship in the creative minds of young designers, so that their ideas metamorphose into newer and niftier products or services capable of being marketed and sold. The outcome is creation of a new class of entrepreneurs - the design-preneurs

(www.ndbiindia.org).

NDBI focus:

- An entrepreneurial and learning environment
- Ready access to mentors
- Timely guidance for seeking Seed/VC fund
- Infrastructural support for early commercialization of ideas
- Venture ready Fund to needy and eligible start-ups by inviting applications through newspapers across India
- Design Consultancy
- Design/IP Registration
- Design Clinics/Workshops
- Creation of design awareness and consciousness amongst MSMEs
- Empowering people who dare to dream
- Mind to market approach to foster new enterprises and jobs

Model of NDBI:

- Design based ventures focused incubator at NID
- Open only for NIDIans
- Stringent selection procedure; business plan examined by a panel of jurists from relevant domains
- Incubate ideas which have been approved grants by DSIR
- They have 26 Incubatees presently out of which 4 are virtual
- They charge monitoring and consultancy fees for operational expenses and in some cases also take stake

Successful graduated company – Dhama Innovations

National Innovation Foundation: The Department of Science and Technology (DST) India helped establish the National Innovation Foundation (NIF) - India, on Feb 28th 2000, with the main goal of providing institutional support in scouting, spawning, sustaining and scaling up grassroots green innovations and helping their transition to self supporting activities (www.nifindia.org).

The foundation has a Governing Board chaired by Dr. R. A. Mashelkar, Former Director General CSIR and President Global Research Alliance. Professor Anil K. Gupta, President SRISTI and Professor Indian Institute of Management Ahmedabad, is the Executive Vice Chairperson of NIF (www.nifindia.org).

For the last twenty years the Honeybee Network and Society for Research and Initiatives for Sustainable Technologies and Institutions (SRISTI) have been scouting innovations by farmers, artisans, women, etc. at the grassroots level.

Grassroots Innovations Augmentation Network (GIAN) scales up innovations, from the Honey Bee database of innovations, through value additions in innovations to sustain creativity and ethics of

experimentation. GIAN was conceived at the International Conference on Creativity and Innovation at Grassroots (ICCIG), jointly organized by IIM Ahmedabad and SRISTI (www.gian.org).

The Honey Bee database of 10,000 innovations, collected and documented by SRISTI, would be part of the National Register of Innovations to be managed and supported by NIF.

Model of NIF

- Promotes grassroots innovations
- Brainchild of Prof. Anil Gupta of IIM-A
- Scouts innovations, supports prototype development, IP and business development
- Runs with grants from Central Government
- Do not provide physical space; aids commercialization of technologies

Nirma Labs: While it is no longer operational, NirmaLabs was the first-of-its-kind in the country started in Ahmedabad. It was a 6 months grooming program giving insights of concept to commissioning of technology ventures for people having a knack for entrepreneurship (participants may or may not have a novel idea initially) who get an opportunity to - develop ideas and plans, understand the importance of team spirit and get to know the market trends.

Potential entrepreneurs were transformed into global techno entrepreneurs with the help of the unique “groom-incubate-grow” concept. NirmaLabs was operation for 5 years.

NirmaLabs supported those candidates or teams who have ready business ideas. They can get their business plan approved and pursue incubation and grooming at the same time. NirmaLabs also had an Intrapreneur Program which involved company sponsored candidates.

Model of NirmaLabs

- They had co-owning IP arrangement; IP transferred to venture if successful
- They charged nominal fees
- Took equity in ventures
- Provided early stage funding

Human Capital:

Education Infrastructure in Ahmedabad

Ahmedabad is home to world class educational institutions like Indian Institute of Management (IIM-A), National Institute of Design (NID), Mudra Institute of Communications, Ahmedabad (MICA), Centre for Environmental Planning and Technology (CEPT), Nirma University, Dhirubhai Ambani Institute of Information and Communication Technology, Pandit Deendayal Petroleum University and many more. Subsequently, the human capital of Ahmedabad is rich. Not only do these institutes produce the employable individuals but they also instil and nurture the entrepreneurial spirit of the students.

Ahmedabad is a substantially evolved education hub for potential engineering students with a wide range of colleges offering quality education to choose from. Engineering colleges of Ahmedabad offer programs/courses for different levels including diploma, bachelors degree, post graduation and also post graduate diploma programs in varied streams like Mechanical, Electrical, Electronics, Computer, Automobile and more. The Gujarat Technological University is the overarching institution to which most of these institutes are affiliated. Admission to most of these colleges is based on the applying candidate's merit in entrance exams.

Some of the top Engineering colleges in Ahmedabad are listed in *Annexure I*

Entrepreneurship Development Institute (EDI), India: The 'Technician Scheme' in 1969 marked the genesis of formal training towards promoting entrepreneurship in India. This was a home-grown idea of two agencies from Gujarat. It was a stark realization from this initiative that as a country we have large entrepreneurial potential which must be captured and leveraged by suitable training.

Consequently, the Gujarat Industrial Investment Corporation (GIIC) in 1970 devised the 'Entrepreneurship Development Programme' (EDP) along with a few other organizations harbouring similar vision. With the increasing demand for expansion and the need to organize the programmes led to the formation of Gujarat Centre for Entrepreneurship in 1979 which became the first-of-its-kind organization in the country imparting training to first generation entrepreneurs. The organization was duly supported by the Government of Gujarat, industry promotion agencies and other such groups.

The success of the initiative reached far and wide. With gaining popularity, the Ford Foundation prompted the Gujarat Centre for Entrepreneurship team to take the EDP to other states like Rajasthan, Assam etc. The Centre also started offering professional support to agencies who would conduct their own EDPs. Subsequently, the need for a nationwide organization focused on entrepreneurship education, research and training was realized.

The idea was formalized by the Industrial Development Bank of India in association with other financial institutions. IDBI had shown keen interest in Gujarat Centre for Entrepreneurship since inception. IDBI joined hands with Industrial Credit and Investment Corporation of India (ICICI), Industrial Finance Corporation of India (IFCI), State Bank of India (SBI) to sponsor a national institution in entrepreneurship. The Government of Gujarat also evinced willingness to support such an institution. Thus was established the Entrepreneurship

Development Institute of India (EDI) in the year 1983 in Ahmedabad- Gandhinagar, Gujarat. Entrepreneurship Development Institute of India was set up as an autonomous body under the Societies Registration Act.

Markets: The mutual presence of large and small companies in an ecosystem provides each with unique benefits. From the perspective of the entrepreneur, multinationals are attractive sources of capital, early customers, and market access. On their side, the multinationals get access to innovative products and services, diversified supply sources, and mitigated investment risk as a venture-funded start ups establishes markets and are acquired when mature.

Multinationals can be active beta sites and early adopters of innovative technology products, strategic equity investors, and acquirers of companies. Multinationals often launch programs to work with startups in their areas of expertise. A few multinationals have participated as limited partners in venture capital funds in order to get windows to new technologies.

For an entrepreneur, having a top multinational as an early customer or distribution partner is worth its weight in gold. Not only does this first relationship for the startup create revenues, it also helps establish their legitimacy in the marketplace and make access to top tier customers much easier.

From a societal perspective, relationships between multinationals and entrepreneurs have been key in entrepreneurial revolutions in Taiwan, Israel, and Ireland, to name but a few.

A multinational's "spillover" benefits to the entrepreneurship ecosystem should not be taken for granted, and to maximize the positive impact, the public and private sector must develop a strategy for ensuring that the multinationals understand and play their unique role, for example, by encouraging them to cultivate and invest in local suppliers. The benefits are triple, for the entrepreneurs, the society, and for the multinationals themselves.

Key features of the city:

- Proximity to port economy , boost of trade
- Uninterrupted Power Supply
- 'Denim Capital of the world' with existence of largest Denim manufacturer in the city
- Popular names in the industry include Arvind mills, Ashima textiles, Modern, Homa, etc.
- Generation percolated textile and weaving industry
- Largest Pharmaceutical Hub of the country
- Biotech hub of the future

Notable companies including Adani Group, Arvind Mills, Cadila Healthcare, Claris Lifesciences, Gujarat

Samachar, Infibeam, Intas Pharmaceuticals, Torrent Group, Nirma, Sadbhav Engineering Limited have their headquarters or major operation in Ahmedabad.

Conclusion: Ahmedabad has majorly three evolved fundamental ingredients to foster and nurture an entrepreneurship ecosystem: a conducive policy structure, the culture and the support system. With strategic and visionary planning and collaboration of stakeholders along with some development on the finance front, Ahmedabad can foster a thriving entrepreneurship ecosystem in the years to come. The combination of these three assets, leveraging the rich human capital and developing the market with best practices, adopting as well as adapting from other successful ecosystems, Ahmedabad is all set to emerge as a robust entrepreneurial ecosystem.

It is hoped that the compelling data presented in this paper is case enough to begin fostering an ecosystem that will become a driving impetus to fuel sustainable economic growth of the region.

Annexure I: Ahmedabad features a good choice of engineering institutes for the prospective candidates. Most of the institutes are AICTE recognized and offer a vast choice in the field of engineering subjects. If you are also desirous of pursuing an engineering course in Ahmedabad, following options can be worth considering.

1. L. D. College of Engineering, Navrangpura
Operational since 1948, the institute is the oldest and premier engineering college in Gujarat.
2. Nirma Institute of Technology
3. Indian Institute of Technology, Gandhinagar (IIT-G)
The latest addition to the league of IITs
4. Ahmedabad Institute of Technology (AIT)
5. Indus Institute of Technology & Engineering (IITE)
6. Central Institute of Plastic Engineering & Technology (CIPET)
Established in 1968, CIPET offers B.Tech, M.Tech, M.Sc. and PGD programs in Plastics Engineering, Manufacturing Engineering & Polymer Nanotechnology
7. L.J. Institute of Engineering & Technology (LJIET)
8. Hasmukh Goswami College of Engineering (HGCE)
9. SAL Institute of Technology & Engineering Research
10. Vishwakarma Govt. Engineering College (VGECG)
11. Government Polytechnic, Ambavadi
The institute set up in 1954 is among the oldest and notable polytechnics in Gujarat.

Annexure II: Some of the major medium and large scale players present in Ahmedabad:	
Name of company	Products
Cadila Healthcare Ltd.	Drugs and pharmaceuticals
Nova Petrochemicals Ltd.	Textiles
Reliance Industries Ltd.	Textiles
Nirma Ltd.	Fertilizers
Suzlon Fibres Ltd.	Textiles
Vadilal Industries Ltd.	Ice cream
Hindustan Gum and Chemicals Ltd.	Glue & gelatin
Harsha Engineers Pvt. Ltd.	Metallurgical industries
The Arvind Mills Ltd.	Textiles
Mcfills Enterprises Pvt. Ltd.	Ready to eat snacks food
Chiripal Industries Ltd.	Textiles
Meghmani Industries Ltd.	Chemicals
Core Healthcare Ltd.	Medical & surgical appliances
Mardia Steel Ltd.	Ingots of high carbon steel
Dishman Pharmaceuticals and Chemicals Ltd.	Chemicals
Intas Pharmaceuticals Ltd.	Drugs and pharmaceuticals
Concord Biotech Ltd.	Drugs
Ashima Denims	Textiles
AIA Engineering Pvt. Ltd.	Metallurgical industries
Cadila Pharmaceuticals Ltd.	Pharmaceuticals
Johnson Pump (India) Ltd.	Industrial machinery

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