

Green Techno-innovation to Green Techno-prenurship through Technology Business Incubation: A Case Study of Aura Herbal Textiles Limited

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Abstract

In recent times, all over the world people are talking about Green Technology due to Global warming and many environmental issues. There is a strong need to do business by using green technology to save the world. Here, in this paper, authors have presented a case study of one company of India – Aura Herbal Textiles Limited which has developed Herbal Dyeing process instead of normal chemical dyeing process for cloths to create eco-friendly environment. The company has also got the patent on this technology. The case was written mainly from entrepreneurship point of view with emphasis on green technology – Herbal Dyeing & Organic Textiles also. This case study shows how Technology Business Incubator, CIIE – IIM Ahmedabad (Centre for Innovation, Incubation and Entrepreneurship) has played a role in helping this technology innovation to create business out of that. Some business strategy aspects are also given in the case study. So, this case study also gives the aspect of Techno-prenurship (Technology Entrepreneurship).

Keywords: Herbal dyeing, Technology Business Incubation, Organic textiles

1. Introduction

Here, in this paper, authors have presented a case study of one company of India – Aura Herbal Textiles Limited which has developed Herbal Dyeing process instead of normal chemical dyeing process for cloths to create eco-friendly environment. The company has also got the patent on this technology. The case was written mainly from entrepreneurship point of view with emphasis on green technology – Herbal Dyeing & Organic Textiles also. This case shows how Technology Business Incubator, CIIE – IIM Ahmedabad (Centre for Innovation, Incubation and Entrepreneurship – Indian Institute of Management, Ahmedabad) has played a role in helping this technology innovation to create business out of that. Some business strategy aspects are also given in the case. So, this case also gives the aspect of

Techno-prenurship (Technology Entrepreneurship). Hence, this case gives relationship - link between Industry and Academic institute. Even, this case may motivate young engineers to think in innovative manner and convert their innovations in to entrepreneurship through appropriate commercialization.

Academician can inspire their students to think innovatively and convert their innovations into entrepreneurship by discussing this case in class room environment.

1.1 Techno – Innovation to Techno- Entrepreneurship

Innovation is the introduction of new ideas, goods, services, and practices which are intended to be useful (though a number of unsuccessful innovations can be found

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throughout history). The main driver for innovation is often the courage and energy to better the world. An essential element for innovation is its application in a commercially successful way. Innovation has punctuated and changed human history (consider the development of electricity, steam engines, motor vehicles etc.). But many times innovation dies because of lack of supports. Many engineering students are doing so many innovative things but most of the time they end up as a certificate on a piece of paper as they do not find any support to commercialize their ideas. Not only engineering students but even innovations have come from the grass root people without any technology back ground and National Innovation Foundation (NIF), Honey Bee Network, Sristi etc. have supported them in India. An innovator can be a member of Honey Bee Network. It works in knowledge mapping and gathering, knowledge creation and value addition & knowledge application and dissemination (Gupta, 2006).

What is important is that how to convert Techno – Innovation in to Techno – Entrepreneurship? There are many Technology

innovations but how many can be converted in to Techno – Entrepreneurship is the real fact. Technology Innovation is important and it is difficult but Entrepreneurship is not just about Technology & innovation. Techno – Entrepreneurship is a broad concept and involves many things and not just Technology Innovation. Technology Entrepreneur is one who organize, manages and assumes the risk of an technology based business enterprise (Nicholas & Armstrong, 2003). For Entrepreneurship innovation in term of product development may require but it is not just enough as Entrepreneurship is not just all about innovation but also managing many things in business. Successful entrepreneur has to have managerial skills to utilize resource effectively, should be able to make appropriate feasibility analysis, should have skills related to marketing, human resource management, financial management, manufacturing management and networks (Bulsara et al, 2009).

Following Figure 1 will give inside of relationship between Techno – Innovation and Techno – Entrepreneurship:

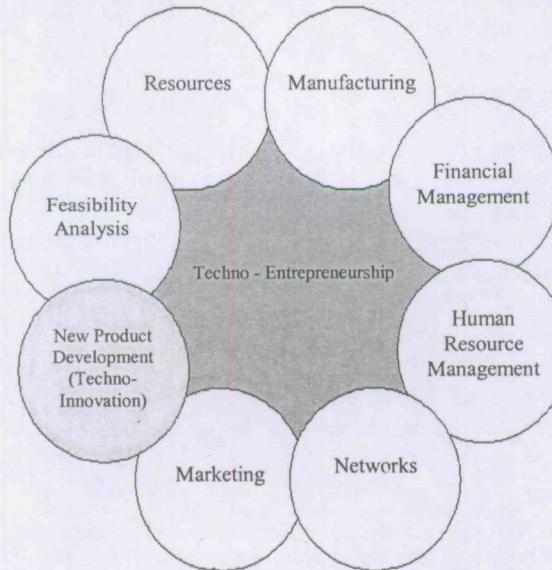


Figure 1 Relationship between techno-innovations and management functions

Entrepreneurship is ‘the process of looking at things in such a way those possible solutions to problems and perceived needs may evolve in venturing.’ Willingness to take the risks involved in starting and managing a business, particularly in establishing business on Unconventional Innovations is a major issue. As an entrepreneur one has to think about all other components of business and not just about the Technology Innovation. And because of that only person who has Technology Innovation may require support for other components of business other wise as mentioned earlier even the greatest innovation may die. Techno – Entrepreneur need to have Technical Management skills, Business management skills and motivation, then only he can be a complete successful Techno – Entrepreneur (Oakey, 2003). Product innovation is not guaranteed by the solution of difficult technological problems. The mindset and company culture adapted to technological innovation may need to adjust its focus in order to give due weight to the issues involved in product innovation (Tomes, Erol and Armstrong, 2000).

1.2 Technology Business Incubation

Technology Business Incubation involves the commercialization of science and technology through newer community institutional arrangements which can be thought of as technology venturing. It concentrates on alliances as an economic development strategy. Technology venturing is based on creative and innovative ways of linking public sector initiatives and private sector resources within and across regional and national boundaries for promoting economic growth. Technology Business Incubation can foster corporate and community collaborative efforts, while nurturing positive government-academic-business relationships. The primary drivers of technology business incubation are entrepreneurs – people who make things happen and technologies or ideas that have potential to be commercialized within a

reasonable period of time (Tornatzky et al, 1996). H.K. Mittal, Advisor and Head, National Science and Technology Entrepreneurship Development Board, DST – Government of India, has shown in his presentation that incubation is required because innovative ideas have longer gestation period and skill set of entrepreneurship is not well developed in all innovators (Mittal, 2006).

2. A Case: Aura Herbal Textiles Limited

In May, 2009, Arun Baid was thinking about the big expansion of Aura Herbal. He had a vision to spread his business with Eco-friendly Herbal concept world wide. ‘Aura’ was a dream venture of Arun Baid and Sonal Baid. The mission statement of a company was:

“To expand our business venture around an innovative process of producing herbal textiles and dyes. Thus help in preventing global warming and pollution related to textiles.”

Aura Herbal Textiles Limited was certified by Global Organic Textile Standard (GOTS) for their all natural/herbal dyeing process. Certified organic fabrics, textiles and yarns were used as the raw material. Dyeing, weaving, printing all were done under keen supervision to maintain quality standards. Dyeing of fabrics up to 120’ width was achieved. Even lengths of up to 1000 meters in different fabrics like voiles, poplins, twills, flannels, corduroys, denims, knits, silks was achieved at Aura. Aura Herbal Textiles Ltd had beautiful color palette of earthy shades & various prints ensuring no waste was generated. All the solid & liquid waste were used as manure & irrigating their Farms.

“We Live and Dye Naturally” – was theme of business.

2.1 Founders’ Background

Arun

Arun Baid was born in Rajasthan in 1967. He was Marwadi, the community known for

business in India. From childhood only, he had a vision to create something of his own, wanted to be an entrepreneur. He completed his B.Com. and then went for MBA but left MBA study to focus more on business. He never worked for any body but started his own business of Chemical Recycling when he was a student. He was well supported by family in his business.

Arun Baid's expertise in herbal dyeing was the result of his interest in environment. His past experience of working with toxic chemicals and its adverse effects on human beings and environment lead him to the invention of this patented process called "herbal dyeing" which was very much inspired by his wife Ms. Sonal Baid who got this unique idea when she was in teaching profession.

Arun initially started researching and experimenting with various herbal dyeing techniques and it was only after extensive research he found out the correct methodology of the dyeing which was initially done on a very small scale but gradually he mechanized all the hand process and "AURA" achieved a significant success in bulk processing.

Sonal

Sonal Baid who successfully played multiple roles of a homemaker, mother and a Director of "Aura" had the experience of working as an initiator with a wonderful international school. Her interest in getting involved with diverse projects arose after she attended a workshop on herbal fabric painting in school. Based on her strong desire for conserving environment she got fascinated and interested in the herbal dyeing process which in turn became the inspiration for Arun and "Aura Herbal Wear" was born.

Sonal called herself a designer by need, Sonal was a designer, who with her knack for designs now heads the stitching and product development department besides being the Director of the company. Her other interests were in working with various women

empowering programs which gets Aura Herbal Wear closely associated with many NGOs for their various activities.

M. L. Baid

M. L. Baid spent 35 to 40 years catering to textile industry from ginning, spinning, sizing and processing. Mr. Baid maintained a firm foothold in finance and a strong commercial background. He was the executive director and manager at various organizations during his tenure. Currently, he was acting as the Chairman and handles financial and legal aspects of the company.

2.2 Journey of Business

Arun was doing business of chemical recycling for over 18 years and earning around Rs. 8 – 10 lacs per month. So, it was not a bad business for him from earning point of view. But he realized that he was not meant for this. He wanted to do a business which might not harm society. He started thinking about something innovative which would be eco-friendly, would not harm society and considered to be ethical business. So, Aura Herbal has come out of realization.

2.2.1 Technology Innovation with Green Technology: Herbal Dyeing and Organic Textiles

Arun and Sonal started thinking about Herbal dyeing. They made some experiments in their kitchen and they saw success out of those experiments which made them very much excited and interested in herbal dyeing. This is Green technology for them which may not harm society.

Being an ancient technique, their first step was to visit and promote any dyer or craftsperson who was already using original techniques to process and dye the fabrics. After visiting the most known places and with just a peek in the dyers backyard, they soon realized that if they needed the purity and quality that they desired they would have to initiate the entire process

on their own in their own premises. Then, Arun, on his own started experimenting with various plant material and minerals. Having no background in textiles or dyeing processes, he needed to learn the difference between synthetic textiles and natural textiles. Each day got them more interested and committed to the natural dyeing process with which they had started associating very strongly. Details about the Organic textiles, Herbs and properties and Herbal dyeing process are given the exhibits.

2.2.2 Initiation of Business

Arun started organically dyeing 2-4 meters of fabric. That was when Arun & Sonal decided to make some garments for themselves and see the feasibility of using these textiles they created. After successfully using these fabrics as a part of their family's wardrobe for a couple of months, they decided it was time to bring this textile in the open market. To get people's imagination running and to show the usability of their textile and to educate people they held their first exhibition in November 2000 with products designed by Sonal. They received very good response from the people which made them opened their first store in 2001. Since then they participated in various exhibitions educating the buyers and making people aware of the availability and benefits of herbal textiles. They were also involved in institutional sales and are promoting their fabric amongst other brands and designers in different parts of the world.

Organic Textile:

Organic cotton is grown without using pesticides from plants which are not genetically modified. High levels of agrochemicals are used in the production of non-organic, conventional cotton. Cotton production uses more chemicals per unit area than any other crop and accounts to a total of around 25% of the world's pesticides. The chemicals used in the processing of cotton also pollute the air and surface waters. Residual chemicals may also irritate skin. Organic cotton is grown using

methods and materials that have low impact on the environment.

Benefits of Organic Textile

Organic clothing can help reduce exposure to allergens and other irritants and give a comfortable feeling.

- Manual farming and organic practices have a lower carbon footprint as the entire process consumes less fuel and energy and emits fewer greenhouse gases compared to chemical textiles
- Not grown from genetically modified cottonseed.
- Grown with natural rather than synthetic pesticides and fertilizers, no chemical defoliants used
- Eco-friendly processing that does not compromise workers' health and helps reduce water and electric use and toxic runoff
- Strict testing ensures the absence of contaminants like nickel, lead, formaldehyde, amines, pesticides and heavy metals
- People with allergies and chemical sensitivity especially benefit from organic cotton clothing, as conventional cotton may retain harmful toxic residues. Even if you don't have sensitive skin, organic cotton will just feel better against your skin
- Children are at greater risk for pesticide-related health problems than adults. Millions of children in the US receive up to 35% of their estimated lifetime dose of some carcinogenic pesticides by age five through food, contaminated drinking water, household use, and pesticide drift
- Farm workers working in conventionally grown cotton fields around the world suffer from an abundance of toxic exposures and related health problems.

Pesticides used on cotton cause acute poisonings and chronic illness to farm workers worldwide. Acute respiratory symptoms and other health effects in communities surrounding cotton farms are correlated with high use of defoliation chemicals

Environmental benefits

- Improved soil fertility
- Increasing cotton yields
- Massive saving of precious water. This is important as cotton is a water-hungry crop, which can cause problems in areas without high natural water availability. It has a positive effect on the content of organic matter and helps to avoid soil acidification
- It improves soil structure by increasing soil activity, thus reducing the risk of erosion
- It promotes the development of earthworms and above ground arthropods, thus improving the growth conditions of the crop

Furthermore, organic crops profit from root symbioses and are better able to exploit the soil, and organic fields accommodate a greater variety of plants, animals and microorganisms.

Herbal Dyeing Process

The process of herbal dyeing was developed through extensive research during the age-old dyeing methods practiced since the days of the Indus civilization. The process of herbal dyeing starts with the gray cloth passing through several stages of treatment before it becomes colorful and ready to wear. During this entire treatment only natural processes are used. Fabric & Yarns used are certified organic cotton, natural cotton, silk, wool, linen, jute, hemp etc. and their natural blends.

Desizing

The washing of processed greige cloth starts with removing sizing, gums and oils used in the

course of weaving by washing with natural mineral-rich water and sea salts.

Bleaching

Fabrics are exposed to direct sunlight, use of a natural grass base and animal manure starts the bleaching process.

Mordanting

To make the colors bright and fast natural mordents such as Myrballams, rubhabs leaves, oils, minerals, alum, iron Vat etc are used. Aura does not use heavy metal mordents like copper, chrome, zinc, tin etc.

Dyeing

Aura uses only medicinally rich herbs, plant material, minerals & oils like, turmeric, Myraballm, castor oil, sea salt etc for dyeing fabric or yarn. Aura has aspired to achieve and retained the medicinal qualities of the herbs by immersing the plant material directly in the dye bath for the same reason.

Finishing

In Herbal Dyeing, finishing is done by sprinkling pure water on the cloth and then stretching under pressure, using hand rolls, aloe Vera, castor oil etc.

Recycling

Solid and liquid waste is separated through the process of filtration and used for farming purposes as a manure & watering the fields.

2.2.3 Role of Technology Business Incubation

They started their operations their own but the project was moving very slow. It was very difficult for them to run business as new technology, new product and all together new market. The cost of uncertainty was very much there. For them, it was an innovation in dyeing process but business was very small. They did not know how to go about full fledged business. As the concept was new, they did not have any recognition as such. And hence, it

was very difficult for them to create a market, channels and distribution for the product.

During that period, 2002 – 2003, they came across the advertisement of ‘Anveshan’ (see Exhibit 1 for detail) give by CIIE (Centre for Innovation, Incubation and Entrepreneurship), Indian Institute of Management, Ahmedabad. That advertisement made them excited and showed them glimmer of hope. That was a programme for business incubation. For them that was not just an incubation programme but the programme could give them recognition from such a reputed institution. They applied for the same. Their application was considered and they were called to present their idea in front of committee of experts. They did it successfully and the project was selected for incubation. Means, now they would get all supports in terms of training, mentoring, some finance, marketing and in short, whatever required converting idea in to business. After that IP evaluation was done and CIIE found that it was really a new concept. They signed NDA (Non Disclosure Agreement) with CIIE to maintain strict confidentiality about the technology. The service agreement was signed and then they were allowed to take advantages of infrastructure of CIIE.

Arun told that he had been in business already, so doing business was not new to him. Getting incubation support for any new first generation entrepreneur is a great help. For him, recognition from CIIE, IIM A was a big thing.

He did not get any formal training from CIIE as he was already in business and had some idea about business functions but continuous mentoring was a great support. He was going to CIIE every 2 -3 months and he got great mentoring support to boost his business in real direction. That made his confidence very high with this new technology. He got access to various technology and research data base. He could make his business plan correctly.

In terms of financial support, he got Rs.50000 from CIIE which was not enough for such a manufacturing company which might required around Rs.70 – 80 lacs as an initial investment. After sometime, he returned all the money with interest to CIIE. For initial investment, he pumped in his own money and he received great help from his brother in law and other relatives. Arun claimed that in terms of financial support, small amount might be useful for any IT based company which could be started with small initial invest but not for manufacturing units. During that period, it was very difficult to run his home as all the money he was putting in to business, Arun said.

He wanted to have recognition from CIIE which he got. Additionally, he got great support in terms of continuous mentoring from CIIE. The confidence he has got out of this process was great. That made him applying for patent. A patent was granted for the invention entitled A METHOD OF DYEING TEXTILE ARTICLE FROM MEDICINAL RICH HERBS. The company got certification from GOTS (Global Organic Textile Standard).

Arun told that the incubation process was good but own business knowledge was vital for success.

The confidence he achieved made him got the loan from bank of Rs.20 millions for further expanding their business.

In 2009, he wanted more money for further expansion of business and he claimed that CIIE got Green Investment Fund from Government. He could be qualified for the same as his venture had green technology and he went to CIIE 2 – 3 times. Every time, he got promised to get the fund but the process was very slow and business could not wait for such long just because of delayed procedural aspects. So, he went to venture capitalist – Gujarat Venture Financial Limited and he was hopeful to get enough funds from GVFL.

2.2.4 Manufacturing

Environment friendly set up

In order to bring a nature-friendly environment in their infrastructure, they decided that the integral part of their unit should be organic. Their set up supported the organic and environmental issues at almost all stages in textiles – Green Factory concept.

They had composite departments for weaving, dyeing and stitching.

Weaving

After being organically sized, the yarns were woven in their weaving unit. They have 4 Schulzer looms of 154" with weaving capacity of 50000 meters of fabric per month.

Dyeing

Their capacity of dyeing and printing was approx 5000 - 10,000 meters per day as on 2009.

They were using

- 8 automatic/semi automatic dyeing machines
- 3 yarn dyeing machines
- 2 auto dryers with finishing
- 1 garment dyeing machine
- 2 knit dyeing machine
- 2 screen printing tables
- 2 block printing tables
- Washing machines

They were also equipped with one roll packaging machine.

The dyeing unit was coupled with one state of the art laboratory whereby they did sampling, color testing and other new developments.

Stitching

Stitching unit had 20 Juki auto machines for woven & knits. Great emphasis was laid on quality. The stitching unit was capable of developing different products like terry robes, pillow covers, fashion garments etc.

Raw material for dyeing was herbs which was available locally. The list of herbs and herbal dyeing process could be seen in exhibits.

2.2.5 Marketing

Basically, Aura Herbal was a dyeing company. But step by step, they were entering into end products to consumers like Towels and Spa, fabrics, T-shirts, Bags and Accessories etc. by manufacturing themselves. This was mainly to prove their products themselves.

They marketed their products through exhibitions, online kiosk on their own website. Some sells could come through word of mouth. They participated in many national and international exhibitions like – InNaTex - Germany 2005 and 2006, OTA - USA 2005 and 2007, International Garment Fair - Delhi, Times Art Design Fair - Mumbai, ICCOA trade fair - New Delhi and Bangalore, INTEX etc.

They got their own online kiosk – Herbal Organic Store. It was nicely designed store which had products like – Organic Towels sets, Spa products, Organic fabrics, Organic T-shirts and Bags & Accessories in different colors and design ranges. One could see all the products online and choose on the basis of color, price, size, design etc. Online orders could be taken in terms of Rupees or US dollars or in Euros. Online payment was possible with home delivery. This system was very easy and user friendly. The export market was also good for their products.

Apart from that, they got distributors for their products. Many Garment companies were coming directly for dyeing and then final fashion products, they used to sell with their own brand names.

2.2.6 Growth pattern

The company was started in 2000- 2001 and did not do well in the starting at all from business point of view. But then, from following chart, one could see that it was doing really well though the concept was unconventional.

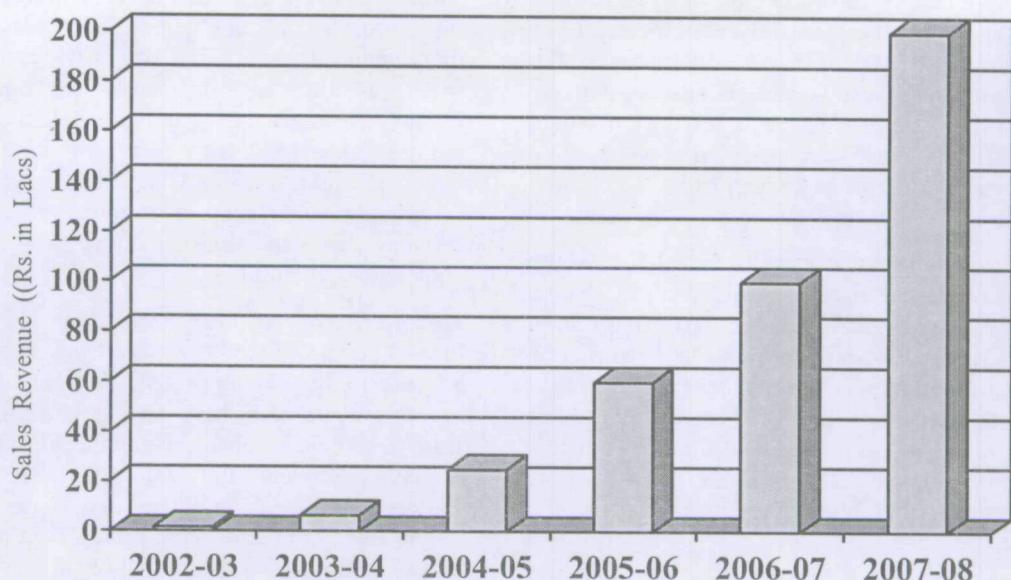


Figure 2 Growth of Aura Herbal

Actually, started with two employees, the company had more than 60 employees to support its growth operations at all level as on 2009.

The journey which started with mere 3 meters of dyeing a fabric in a small tub came a long way, achieving more than 5000 meters dyeing per day capacity with the help of contemporary machinery and innovative techniques in 2009. It was a yield of extensive research of many years and the experiments were on in order to develop a more accurate and consistent process and to eliminate the various limitations of herbal dyeing like color limitations, inconsistency etc. They were working towards incorporating completely clean & green technology, with almost no carbon footprints.

2.2.7 Family Contribution and Reaction to Business

His family was also very much positive about his business nature and he was well supported not only by his family but relatives also, in particularly by brother in law. As we could see

from the case He was well supported by his wife Sonal Baid and his father M. L. Baid actively in day to day activities of the business.

2.2.8 Problems, Challenges & future

Arun had vision to take to the company at world level by having distribution of their products all over the world in coming few years. As on 2009, it seemed like a dream for them but he was confident.

He had confidence that there was huge export potential for their products in the countries where people believing in the concept of Eco-friendly products. In India also, market was picking up and he was confident to do well in Indian market also. As all over the world, people started talking about and taking actions about Green Technology, Eco-friendly products to reduce global warming and harming societies as a whole, their products would definitely have a better future.

For all these, business had to be expanded and expanded carefully. Production capacity was to

be expanded and with that, maintaining same level of quality across the all the plants would be very difficult in herbal dyeing process. Even creating team of people was a difficult task. The team of employees as well as channel partners for marketing products with expansion would be difficult. Proper skills needed to be imparted by appropriate training which had to be ensured by strict monitoring of processes at all plants.

As the concept was still considered to be unconventional from normal chemical dyeing process, it was difficult to get fast expansion in market. Even the product was costly. Normally, organic cotton was 40% more expensive than normal synthetic cotton. And above that, cost of herbal dyeing was almost 40% more than that of normal chemical dyeing. So, it was making product costlier but yes, environment friendly green products.

3. Analysis of a Case from Techno-innovation to Techno-entrepreneurship through Technology Business Incubation point of view

On the basis of detailed literature review and our own study, we could derive the conceptual framework for the components of support services of Technology Business Incubation. For this we have mainly referred Tornatzky et al (1996), McAdam et al (2006), Scott T. (2002) and Peter C. Van der Sijde (2002). They have given some components of support services of Technology Business Incubation in their research. Details can be seen in the chapter of literature review. The conceptual framework will act as a pattern which can be matched in the context of India to understand the Technology Business Incubation in India for our selected case of Aura Herbal Textiles Limited.

3.1 Description and findings

Physical Resources Supports: In case of machinery and laboratory, CIIE does not provide machinery and laboratory supports directly but provides support through tie up

with some other agencies, fabricators or workshop. Even they take help of engineering institutions also. Aura herbal did not require this support from CIIE. CIIE provides office space to all their incubatees on nominal monthly charges but Aura Herbal did not require office space as they have got from their old chemical business in Ahmedabad only. CIIE gives very much support in terms of shared services as mentioned above including conferencing facilities.

Human Resources Supports: CIIE helps in hiring people directly as well as provides advices to hire better people for incubatees' organizations. CIIE have strong management team to support incubates which includes: Chief Executive Officer (CEO), Joint Chief Executive Officer (both IIM A graduates) and seven Senior Associates from various disciplines like Finance and Accounting, Technology, Legal and IPR etc. To guide them, even Executive Committee and Board of Governors are also there. They have also tied up with various agencies, CA, CS etc to support their incubatees. Aura Herbal got support in terms of advice to recruit employee for their organization. They also got support from management teams from time to time during their incubation.

Technology Resources Supports: CIIE gives access to knowledge and technology to all their incubatees. As it is a part of Indian Institute of Management Ahmedabad, they have huge resources of knowledge in terms of full fledged library with books, reports, magazines, journals and other digital resources. Aura Herbal could take advantage of these resources. In terms IPR – patents support, CIIE have full time IPR expert in their team to support incubate. They have tied up with other legal experts also. Arun Baid of Aura Herbal got full support from CIIE in patent related issues and they got patent for their Herbal Dyeing Technology as mentioned in Case. CIIE helps a lot in terms of technical documentation and even Aura Herbal got this help.

Organizational Resources Supports: CIIE provides consultancy support to incubatees. They tie up with specific agencies for specific requirement of incubate if required. Mentoring is the most important function of CIIE. They provide full supports to incubatees in terms of continuous mentoring which is very much important during incubation period as the incubatees may get frustration. They come with technology idea but they require help in all other area. In case of Aura Herbal, they got continuous mentoring support from CIIE. Arun Baid used to visit CIIE every 2 - 3 months and he was supported continuously through mentoring. Mentoring has increased his confidence and helped him in planning his business effectively.

Networking Supports: Networking can be classified in terms of Internal and External networking. CIIE provides both – Internal and

External networking supports to their incubatees. Following figure can give idea about CIIE network. The Indian Incubator for Innovation Based Enterprises (I3E) is managed by CIIE. I3E help innovators to successfully commercialize their innovation through an enterprise. CIIE has network with Technology Institutions and labs like IITs, NITs, DACIIT, MICA etc. They have networking with Design Institutions like NID (National Institute of Design). CIIE also has networking with Technical experts, venture capitalists, IIM Alumni, Entrepreneurs, Legal firms, Market research firms. CIIE take help from them as when incubatees require supports from them. The incubatees are greatly benefited by these networks. Aura Herbal has also got advantage of the networking from time to time as his technology of herbal dyeing was very much and from market point of view also he got many inputs for better planning of his business.

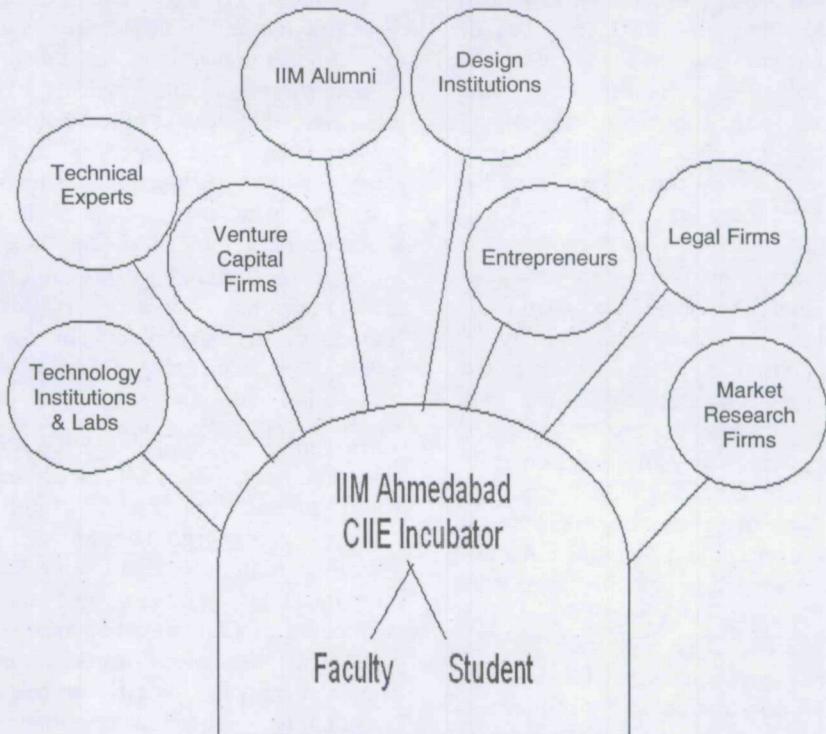


Figure 3 I3E Network (Source: CIIE, Ahmedabad)

Financial supports: CIIE provides direct financial support from their own fund but that may cover small expenses of the incubatees. CIIE gets fund from IIM A for recurring expenses of the organization. From that they support small expenses of the incubatees on behalf of them. Major financial supports normally come from indirect way through external supports from Venture capitalists, Banks, Financial corporations, angel investors and various Government grant schemes to support techno-entrepreneurship in India. DST (Department of Science and Technology), Government of India has many schemes to support techno-entrepreneurship in India. The TePP (Techno-entrepreneurship Promotion Programme) is a famous scheme of DST. Even TDB (Technology Development Board) provide financial supports to some projects. Department of Information Technology, Government of India provides support to basically IT projects. Government has also launched support through MSME (Ministry of Small and Medium Enterprises) fund. CIIE take help of all these schemes to provide financial support to their incubatees depending upon the specific projects from time to time. Aura Herbal got 50000 rupees fund from CIIE initially to support the project. That Arun Baid returned to CIIE once project was in good shape. Arun claimed that the amount of rupees 50000 was not adequate to start his manufacturing project. This amount may be useful for IT based company where initial investment is low comparatively. So he took help of relatives to fund his project. He used his own money which he had generated from his old business. Afterwards, with the help of CIIE, he got fund of around Rupees 2 crores for expansion from Gujarat Venture Financial Corporation. He wanted to get some fund from Government Scheme but he claimed that process was slow. CIIE claimed that the procedural delay was because of Government procedure. CIIE does not come in to picture in any Government scheme. CIIE help through mentoring for documentation and application

part of the scheme. Afterward some delay may be there because of procedural part at Government offices.

Training supports: CIIE provides training formally in the form of workshop for their incubatees and informally also in the form of continuous mentoring about all the aspects of business management functions, soft skills, technology and business plan. CIIE conducts formal workshop for their incubates for all the aspects of business management functions, soft skills, technology and business plan. Arun Baid did not take part in formal workshop as he was in business and had idea about most of the components of the business. However, he got lot of inputs of all the business functions and other related aspects through continuous mentoring. So, informally he was trained by CIIE.

Technology Transfer Supports: CIIE helps in Transfer of Technology to their incubatees as well as to others also. But CIIE's main focus is to support innovators – incubatees to make them successful entrepreneurs by developing business ventures out of technology innovation. They have recently launched portal www.innovatorx.com to help innovators from all over India with the help of Marico Innovation Foundation and Department of Science & Technology, Government of India. Main aim is to create a platform to bring together all stakeholders in the innovation ecosystem – bridging a gap which currently exists in India.

Marketing Supports: CIIE support in Marketing activities of incubatees' products and organization mainly through website www.ciiieindia.org. The website contains all useful details about the incubatees' organizations, products, innovations etc. The brochure of CIIE also contains all the details about the incubatees' organizations, products, innovations etc. CIIE helps in making marketing strategies, conducting test marketing, marketing products through

exhibitions etc. Actually CIIE is a part of IIM A which is a premier institute of management in India and has very good brand equity. So, all incubatees get advantage of this brand equity associated with IIM A. In the case of Aura Herbal, Arun Baid claimed that the biggest support for him was to get associated with CIIE, IIM A which had given Aura Herbal a brand equity support. That helped him in many ways as his technology was very much new and he could not enter in the market effectively without help of CIIE, IIM A. After incubation from CIIE, he got recognition in the market because of CIIE, IIM A's brand equity. He also got all the marketing support mentioned above.

Marketing research: CIIE conducts marketing research from time to time based on projects' requirement. They also take help of IIM A's students, professors and even other specialized marketing research agencies. Aura herbal also got this support for his new herbal dyeing technology.

Financial Management & Accountings supports: CIIE provides full support to their incubatees in terms of financial management and maintaining their accounts. They have full time accounting personnel in their management team to look after this support function. Even they take help of Chartered Accountants also. Arun Baid took some support initially but did not require much of this support as he had old business experience.

Legal and regulatory supports: CIIE provides legal and regulatory supports to their incubatees at the time of mainly IPR issues and company formation. They take help from Company secretaries and legal firm from their networks. Aura Herbal also got this support partially as he had some prior experience.

3.2 TBI Process at CIIE

Here, on the basis of analysis of the case developed on Aura Herbal Textiles Limited, discussion with Technopreneur – Arun Baid, information received from CIIE, IIM A and

literature review of records we can describe the TBI process at CIIE as follows:

Following broad steps of TBI are:

Scouting for Innovation: This is mainly done through Anveshan, iAccelerator, Renewable Energy Search programmes.

Anveshan: Launched in 2002, Anveshan is a unique nationwide proactive search by CIIE at IIMA for hi-tech and high impact innovators in public, private and informal sectors so as to transform their innovative products and technologies into viable enterprises. Selected innovators and their technologies receive incubation support in the form of infrastructure, networks and IIMA intellectual expertise. Anveshan is subdivided into the following three categories: Start up Program Start - up Program targets innovators who have developed a high-tech or mass impact technology with a prototype and wish to commercialize it.

Top Innovation Program - Top Innovations Program is a program that aims at identifying the 50 best technological innovations across the country. The aim of the program is to promote creation of IP and culture of innovation amongst the students, scientists and researchers across the country. Centre shall provide technology transfer/licensing support through networking with industry associations, entrepreneurs, corporations in the respective sectors. Ideaz Program- Ideaz program targets innovators having an idea to address a specific challenge area, which can solve practical social and economic problems. The aim is to identify technology based ideas that have the potential of getting quickly converted into an innovation leading to commercial application. This is targeted towards people who have some idea of "what" can be done, but could not develop the idea/technology because either they did not get the opportunity or the required resources

Incubation through Anveshan: The best innovations geared towards developing into

commercial enterprises are given incubation support. These incubatees are decided by an eminent panel of judges comprising of venture capitalists, entrepreneurs, scientists, academicians and technical experts. The incubatee signs an MOU that will define the financial stake, service fee, funding and revenue stream on a case-to-case basis. They will have a mentoring team, ready infrastructure at IIMA and also with external agencies like research labs, design centers, etc. and a support system of agencies such as VCs, legal, HR.

iAccelarator: This programme is for committed entrepreneurial individuals with strong technology skills and clear idea. CIIE will invest up to rupees 5 lakhs in the company. The individuals selected would have to stay for 4 months from 1st may to 1st September at Ahmedabad only.

Renewable Energy search programmes: Main focus over is to have innovations related to solving energy crisis through clean energy related research.

Apart from all these, CIIE conducts events regularly through which also they get some innovators. They send emails and mail with posters of CIIE to various Technology institutions, Alumni networks etc.

Aura herbal got into CIIE through Anveshan. They came across the advertisement of Anveshan when they were struggling with their new technology of Herbal Dyeing. They have started their operation but the project was moving slowly. They were in lot of uncertainty. But they got trust in their new technology, so they applied for Anveshan in 2002-03.

Selection of Innovators, IP evaluation and signing NDA (Non Disclosure Agreements): the application proposal is screened by CIIE for innovativeness of the innovations. The Non Disclosure Agreements is signed (The Performa of NDA is given in Appendix 2). Even IP (intellectual property) screening is

done. Then the innovators are asked to present their innovations and ideas in front of the screening committee of judges which contains experts from technical field, venture capitalists, entrepreneurs, scientists and academicians. In case of Aura Herbal also this process was followed. And their project was selected for incubation at CIIE.

Service and shareholder agreement with incubatees, whichever is applicable: Once the project get selected for the incubation, the incubatee / incubatees have to sign MOU (Memorandum of Understanding) with CIIE. That may include service and share holders agreement, loan arrangement and repayment of the same and any other terms and conditions which may differ from case to case. The same process was followed in the case of Aura herbal. He took a loan of Rupees 50000 and he had returned that.

Infrastructure and services to selected incubatees and initiating mentor program: The details of infrastructure and services to selected incubatees have already been discussed in earlier section of pattern matching of conceptual framework of TBI.

Providing access to technology and related networks: this has been discussed already in earlier section of pattern matching of conceptual framework of TBI.

Commercialization Activities: These normally includes creating entrepreneurial Venture, business plan, market research, consultancy, legal, finance and other support and all these have been already discussed in earlier section of pattern matching of conceptual framework of TBI.

Graduation of the Incubatee: Normally it takes 2 years for completing the incubation process at CIIE. But it may vary from case to case. Some time, incubation period can be extended on the basis of evaluation done by expert committee of CIIE. Even after graduation of incubatees, continuous follow up

is always there from CIIE side to ensure smooth progress of the incubated companies. In the case of Aura Herbal, the time period was almost 2 years but then afterwards, continuous touch was maintained between CIIE and the company. They try to handle 10-12 projects / year.

CIIE does not charge any thing for incubation process. But they take nominal rent for office space and electricity etc.

Focus: Focus of CIIE is to create successful business venture out of innovation and not the technology transfer. They choose small number of incubatees after rigorous selection process and try to make them successful entrepreneur by creating successful corporate companies.

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