CHAPTER 7

CONCLUSION

This research work focused on identifying influencers of success in the incubation environment that impact the performance of the incubatee start-ups and analysed the effect of each influencer in achieving the objectives of an incubator. Further, the possibility of incubators playing the role of open innovation intermediaries was studied and all the key findings were validated with a group of domain experts. The findings and their implications are discussed in this chapter apart from limitations of the study and recommendations for future research.

7.1 FINDINGS

This section provides a summary of findings from the study.

- Ninety per cent of the respondent business incubators were hosted in academic institutions and the remaining were supported by ‘Science Park / ‘Technology Park’ and other types of organisations. Except two business incubators, all the others were registered as not for profit entities.

- Fifty-nine per cent of the ‘Business incubators’, had incubation space to the tune of 10,000 square feet and more while the remaining forty-one per cent had less than 10,000 square feet of incubation space.
Forty-one per cent of the incubators had more than ten years of operational experience, twenty-six per cent had five to ten years of operational experience and remaining thirty-three percent were operational for less than five years. Fifty-one per cent of the BIs provided more than two years of incubation support.

Sixty-seven per cent of the incubators had more than ten incubatee start-up ventures and seventy-two per cent had more than ten graduated ventures.

Seventy-one per cent of the incubators had ICT as their thrust area and others had non-ICT thrust areas.

Eighty-seven per cent of the incubators had in-house seed funding and majority of them received a grant from Government to commence this seed funding program.

Start-up ventures in thrust areas such as IT/ICT require less time to develop products and reach to market when compared to manufacturing or biotechnology. Hence, BIs having ICT thrust areas had lesser incubation turnaround time than others. Since most of the respondents had ICT as their thrust area, this association between the thrust areas of BIs and their average incubation period was clearly evident.

Incubation capacity (number of incubatees) is affected by many factors such as space available, value added services, location, ecosystem in the incubators’ region etc. However, the incubation space has had a direct bearing on the number of companies that could be accommodated.
Nine incubators were operational for over fifteen years. Seven incubators had number of graduated companies as fifty and above. Overall, seventeen incubators had more than twenty-five graduated companies. Twenty-eight incubators had at least ten graduated companies.

A majority of the incubators received a grant from TDB and DST to initiate a seed funding program. Some of the incubators had received grants from DBT and DIT to set up seed funds. From the responses, it was found that eighty-seven per cent of incubators had an in-house seed funding program. Since the seed fund program started from the year 2005, there was a surge in the number of companies getting funded in the last five years.

All the incubators provided access to infrastructure, funding, marketing, mentoring, and legal/IPR services. Eighty per cent of the incubators provided access to talent support in addition to other services.

Access to ‘Technical infrastructure’ is more significant than standard office facilities or cost of access.

Mentoring is an important and inevitable service offering of BIs.

Grants without any repayment obligation is crucial for a start-up working on an idea surrounded by uncertainties from technology risks and as well as market risks. Lack of risk funding could be a major stumbling block in promoting high technology & high risk ventures having immense growth potential.
• Academia based incubators (by virtue of their association with the host institute) provided access to the student talent (for internships /part time jobs/ project opportunities) and assisted the incubatees in their recruitment process (from the alumni pool or using its resource networks).

• Incubation process maturity: Mature incubators attached more significance to value added services namely mentoring and access to market support. On the contrary, young incubators considered basic services such as access to infrastructure and legal/accounting as important.

• Open innovation hub status would help the incubators in the following:
  
  o To increase deal flow (scout & identify new projects for incubation)
  
  o To expand range of services in technology commercialisation and deal structuring
  
  o To augment skills in the IPR and ‘Technology commercialisation’ domains
  
  o To augment revenue earning potential through new skills and expanded range of services

• Reputation of an incubator is necessary to attract more industries in its OI network
7.1.1 Key Findings

The following are the key findings on success qualifiers and influencers of success of incubatee ventures in the incubation environment:

i. ‘Gaining acceptance from customers / generation of orders and setting a growth trend’ is found to be the dominant qualifier of success of an incubatee firm’.

ii. ‘Access to market support’ from an incubator is the most important influencer of success among various determinants (service offerings) that contribute to the success of incubatee firms.

iii. ‘OI activities of the business incubators’ would enhance the success of the incubatees.

iv. ‘Business incubators can be the OI intermediaries and the necessary wherewithal is available. However, a skill gap in the wherewithal needs to be addressed.

v. OI activities of the business incubators would definitely improve the ‘access to market’ support provided to the incubatees.

From the above, it is very clear that all the ‘Primary’ and ‘Secondary’ objectives of the study have been achieved and all the corresponding postulations are found to be valid.
The following are significant inferences arrived at upon testing of the model proposed:

The opinion of incubator respondents on importance assigned to ‘Access to market’ positively relates to the postulation that ‘Business incubators’ can play the role of open innovation hubs. Further, it needs to be noted that this OI hub role could eventually lead to success of the incubatee firms.

61.2% of the success of incubatee ventures is contributed by variables namely reputation, transformation and ability of BIs in transforming into OI hubs.

There were valid concerns expressed by some experts who were part of the elite interview that corporate firms might block certain innovations (in view of their vested business interests). Hence, it is essential that the incubator/incubatee need to have proper legal protection (eg. right of refusal clauses) via agreements.

The predicament that incubators might become subservient to a single corporate or may lose focus on their public good liabilities, may not pose a serious threat as the proposition clearly advocates the concept of an innovation hub. The hub would be a meeting point for many corporates and incubatees to explore associations and may not limit itself serving the needs of a single corporate firm.

Often, it is found that innovation and entrepreneurship activities require a variety of skills. These skills may not be available with a single founder or with a couple of cofounders, in a start-up. Under such conditions, commercialisation of innovations at start-ups could be catalysed through open innovation partnerships at incubation centres.
Protecting interests of incubatee firms is another important attribute. By virtue of providing services through open innovation route, BIs have an obligation to treat corporates as an additional set of customers. BIs might have certain ambiguous situations servicing two different customer segments. But a larger possibility of a ‘win-win-win’ outcome could be arrived at among incubators, incubatees and corporates. The difficulty of making this work could be construed as ‘operational hassles’ instead of perceiving that as a threat.

As playing role of OI hub would be a new activity, the incubators might require newer skills in the areas of intellectual property rights, technology commercialisation, legal aspects and even mergers/acquisitions. This might warrant changes in cost/revenue models arising due to expanded scope.

While it is true that a business incubator’s role is more of facilitation, it is important to understand the underlying dynamics between organisations / parties involved in an OI alliance. A large body of research work is available in the areas of integration of inbound innovations, managing culture between supplier and receiver organisations, in developed countries. Findings from those studies might provide insights to address incubator’s initial challenges.

There is a need to bring in Government / policy makers in order to facilitate linkages with defence/public sector enterprises under OI hub. Considering the continuous technology and innovation indigenisation efforts and size of procurement budgets available with defence / public sector enterprises, this might bring in significant value to the table.

A cluster approach might be necessary in order to achieve a critical mass. This could be done either through the apex incubator association
managing an open innovation platform or even one lead incubator managing this platform. However, there could be differences in the quality of facilitation between these two approaches. When individual incubators from the network individually connects to the corporates in the network and arranges open innovation access, their services would be packaged with mentoring, infrastructure, talent and funding apart from market access. As the traffic from each of the incubators gets diverted to an automated facilitation platform, there could be lesser hassles. A number of pilot initiatives need to be rolled out and their outcomes are to be studied before generalising a particular model.

7.2 IMPLICATIONS OF STUDY

7.2.1 For Practitioners

The research would help incubation managers to understand the relative merits and demerits of their service offering. Eventually, this understanding would help them to optimise the service mix of incubation process variables.

The research would be of help to the new incubators to understand incubator environment influencers of success and would guide them to arrive at appropriate strategies specific to their operating environment.

This study would help policy makers to plan, allocate resources, monitor outcomes and arrive at proper tools for evaluating results.

The model developed as a result of the study might be of help to the incubators, researchers and students to understand the influence of each of the factors on the performance of the incubator and incubation outcomes. This
might be helpful to practitioners to use the scarce resources frugally in order to ensure success of incubation programs.

More importantly, this research introduces a new concept of business incubators playing the role of OI intermediary hubs. Since most of the BIs are promoted by academic institutions, this provides a strong position for BIs in the system as they increase the much desired industry-academia linkage through this activity. Increased revenues through OI activity would enhance sustainability of BIs which is another critical issue debated often in the BI forums.

Industries embracing innovations in India and ‘Multi National Firms (MNCs)’ having India centric activities would find the study as an input to explore OI partnerships through BIs. For industry associations, the study might provide directions on establishing forward linkages with incubators in order to scout for innovations in a structured approach, on a continuum.

Start-ups and Start-up groups might be in a position to consider strengthening their product-market validation by associating with incubators or a cluster of incubators adopting OI practice.

The Government agencies promoting incubation and the incubation associations might consider providing enough networking opportunities among industries, incubators, academia and prospective start-ups. Such opportunities would naturally groom a ‘relationship network’ favourable to OI hub initiatives.

The mixed responses from the respondents and experts’ on BIs transforming into OI hubs points to challenges arising out of operational dichotomies. However, there is greater convergence of opinions at the strategy level. The operational dichotomies necessitate a great deal of
managerial capacity building, pilot programs to test the concepts, adopting best practices from the corporate open innovation programs, publicising / dissemination of the outcomes of pilot experiments, and conducting training activities.

Overall, the study assists the incubator managements to consider a next generation operation model for the business incubation industry. This has provisions for a holistic blend of newer skills and associated opportunities in order to scale and grow.

The success of the incubator depends primarily on the functional and financial autonomy rendered to BI operations team. Boards and stakeholders of BIs shall consider this and exercise enough care while choosing a team to run the incubators. This is important as the BIs should have the ability to take decisions swiftly while dealing with industries.

7.2.2 For Academic Researchers

There is a need for developing locally relevant business and operational model for incubation. Even if incubators consider adopting OI hub models, they need to align with their respective industry ecosystems. This requires theoretical model development, study of fit with local business practices and estimating its effectiveness for adoption.

There is a need for managerial capacity building and skill development in the incubation profession. Formal certification and education programs, shadowing practitioners and internships to interested professionals would help in creating a pipeline of personnel for addressing the skill needs of the incubation industry. This again calls for research in the areas of curriculum development for training and studying the impact of such interventions.
7.3 LIMITATIONS OF THE STUDY

This research was anchored on performance of the incubatees and was limiting to capturing opinions of thirty-nine (incubator managers) respondents, apart from experts invited for the elite interview. A larger and more representative sample may give broader representation to the measurement of factors influencing the performance of incubatee ventures. Data collected for the study is more or less from a homogenous group of incubators and therefore extrapolating results to global incubation fraternity might be challenging.

The study did not consider local business environments and underlying dynamics / interplay among various actors in the economy in which the business incubators are operating. While there are number of other factors such as industrial climate, team dynamics, capability of team that might affect the performance and success of a start-up, this study confined to the service offerings of an incubator as ‘influencers of success in the incubation environment’.

Thrust areas of the incubators that support the start-ups, local start-up eco system factors such as availability of mentoring / funding /talent / culture and varied levels of experience of the respondents might have influenced the results of the study.

Entrepreneur centric factors such as motivation, previous experience, age, team dynamics and the degree of fit between incubatee and incubator were not considered.

The study postulated a new concept of BIs by transforming them into OI hubs. The whole proposition of linking open innovation activities with the access to market support of business incubation is new and first of its
kind. Hence, the nature of responses reflected the uncertainties involved in every step of this transformation. A very detailed approach document was not available with this new proposition. The survey respondents and experts (participated in the elite interview) were quite familiar to the nitty-gritties of ‘success qualifiers and incubation environment influencers’. Hence, their responses on these parameters carried greater conviction levels than the one on OI hub postulation. It would have been harder for them to visualise the context and associated cause-effect possibilities in its entirety. As a business model innovation, a vast majority of OI initiatives are less than a decade old, across the globe. Both BIs and OIs have not been researched enough and most researches happen at the qualitative / practitioner level. It is only in the last six to eight years that many of the open innovation aspects are being extensively researched, piloted, experimented and practiced. However, almost all of these research efforts focused on large corporate firms. We are yet to see credible data in the Indian context even from the corporate sector, let alone business incubation and start-ups.

In India, incubation initiatives started gaining momentum during the last five years and are set to reach critical mass in the near future. Hence, it might take several years to have sufficient operational data for taking up empirical studies using large quantitative information. The OI concepts even among Indian corporate firms are quite new and it was difficult to sensitise all the survey respondents within a short period.

Following are certain general limitations of this study:

- Behaviour of respondents while filling the questionnaire was unpredictable. There is a probability of respondent bias occurring in the data. There might be non-sampling errors due to bias of respondents.
• Shortage of time and resources to collect data were the constraints. Sampling errors and selection bias might have impacted this study to a certain extent.

• The factors such as experience and exposure of the incubation managers (respondents) were not given much importance in this study. There might be some influence of these elements too.

7.4 SCOPE FOR FURTHER RESEARCH

While many of the limitations may be triggers for future studies and newer problems, here are a few specific research opportunities that have opened up from the research. As this study had incubators as a target group, it is essential to consider involving primary beneficiaries of incubation i.e. incubatee start-ups to obtain a holistic sense of issues and challenges developed in this study.

Achieving certain thresholds in number of employees as a qualifier of incubatee success had the lowest mean score of 2.97. It is interesting to note that the increase in number of jobs provided by an incubatee firm was not considered as a success qualifier. Growth in number of employees happens mostly after market or financial success. Even though employee growth is a visible sign of growth of a venture, incubators ranked this the lowest among identified factors. This throws opens a new issue to investigate the following:

• Does extensive mentoring and training by the incubator make the incubatees’ more rational in expanding the headcount?

• Whether the incubation environment reduces the need to rapidly scale up in terms of number of employees?
Lack of risk funding could be a major stumbling block in promoting high technology, high risk ventures having immense growth potential. There is a need to study the impact of funding in relation to market success of a start-up firm.

The comments received from experts on ‘Access to market’ support provide a pointer and raises an issue to work with:

Do most start-ups fail because of their inability to understand the actual needs of customers and address them?

The findings related to ‘Access to market support’ lead to further questions such as:

- Does an incubator’s role end only with suggesting few leads from its network for early/beta customers?

- Should incubators focusing in specialised fields such as Biotechnology / Agriculture products also provide access to market support?

- If providing access to market support is a basic service, why many of the incubators are not providing it currently? What could be possible factors dissuading incubators from providing this service?

- Should business coaching be coupled with access to market support in order to prepare the start-ups in their product-market fit strategy development?

- What combinations of incubator services would result in optimising success efforts?
These questions eventually open up some future research directions in the business incubation domain.

While comparing young and mature incubators, it was found that as incubators mature, there is a shift in priority from basic services to value added services such as access to funding, mentoring, talent and markets. More empirical research would be needed to validate this across regions.

As there is a rapid rate of growth in the number of incubators globally, exploratory studies on clustering of BIs based either on the thrust areas or their service mix could be helpful to strengthen the concept of OI hubs. This led to another question:

- Could a number of incubators with similar interest form a cluster of OI incubators or would it be advisable for every incubator to play the role of an OI hub needs further investigation?

Defining the role and scope an incubator in open innovation transactions becomes an absolute necessity. To what extent a business incubator can engage becomes a topic requiring further exploration and investigations.

Presently, enough literature and data are not available to substantiate that the open innovation facilitation would enhance success. As a new concept is being explored, the data would be available after several years upon implementing, practicing and sustaining the practices.

It is to be researched if University based incubators would have an edge in open innovation alliance. At least in the western countries/ developed nations, Universities, University based technology transfer/licensing offices
are the facilitators of open innovation partnerships between universities and corporates seeking innovations. An exploratory study might be essential to verify the feasibility of academia based BIs providing technology commercialisation as an additional service innovation hub.

Newer BI roles and opportunities emerging through ‘Corporate Social Responsibility (CSR)’ projects from industry, ‘Co-incubation’ services by a group of incubators and ‘Soft –landing’ are to be explored in the context of BIs playing the role of OI hubs.

7.5 CONCLUSION

Customer acceptance and performance of the firm in the market place are the clear indicators of success of a start-up venture. All other goals are subservient and help the start-up to achieve customer acceptance. In order to make an incubatee firm successful, ‘Business incubators’ should consider providing ‘Access to market’ support as a key and mandatory service in addition to their other standard service offerings. This, in addition to their other basic and value added service offerings such as mentoring and funding would greatly influence the incubation outcomes. Since the success of incubatee firms would eventually portray the success of incubation programs, it would help to enhance the relevance of incubation programs.

In order to strengthen the ‘Access to market’ support, incubators should consider building strong alliances with industry either on their own or as a cluster of incubators focusing in certain thrust areas. This would help them play the role of innovation intermediaries and helps them to transform into OI hubs. While this new role would augment their access to market support, it would also bring in newer skills in ‘Technology management’ domain. Such skills would eventually enhance incubator revenue streams. Hence, apart from ensuring success of incubatee ventures, BIs would become
sustainable and profitable entities too. This situation is helpful to increase the reputation of the incubators and thereby to attract the next set of incubatees. There is an imminent need for the stakeholders of BI movement to recognise this new opportunity and provide appropriate support.

However, there is a strong case for looking at the other side of the coin. While dealing with two sets of heterogeneous client groups with varying needs, BIs may get trapped in certain embarrassing situations and may lose focus. This arises out of ‘conflict of interest situations’ where the incubators have to deal with a dependent incubatee on one side and a resource rich corporate firm on the other side. Since both the groups have the right to demand more favours to their side as customers, the negotiating table would pose several challenges to the BIs. Such a situation (incubators’ dilemma) would necessitate an ethical and tactful approach for maintaining balance. This sentiment was clearly portrayed through the mixed responses received from experts took part in the elite interview.

Innovation breaks status quo and brings in development. Entrepreneurs take these developments to the market. Incubators operating at the intersection of innovation and entrepreneurship need to be innovative and have to adapt to changes. As start-up firms pivot and reinvent their business model, ‘Open innovation’ provides BIs an important opportunity to move on to next generation incubation or ‘Incubation 2.0’. When this attains critical mass, it would definitely be a beneficial disruption for the industry.