CHAPTER 7

CONCLUSION

The research work focussed on identifying the key factors that influence the performance of the incubators and had analysed the impact of each element in the achieving the objectives of an incubator.

7.1 FINDINGS

- More than 50% of the incubators are established by the universities. The remaining are established by NGO, Government agencies, technology parks, and private sector.

- About 88% of the incubators are operated as a non-profit organization.

- About 84% of the incubators fall in the category of industry specific or mixed use incubators.

- Government plays a key role in establishing the incubators and provides necessary funding support for establishing and operating of the incubator.

- About 50% of the incubator had set up a seed fund support mechanism to its incubatees.

- All the incubators had mentioned that they provide space, facilities, funding support, incubation program, mentoring, networking and other support services to their clients.
The success of the incubator depends on effective implementation of the services provided by the incubator to the clients. Even though all the listed factors are important, their role in influencing the success of the incubator depends on the ownership, nature of the incubator, objectives, age, number of incubatees, number of incubatees graduated and the incubator governance.

The ability to achieve its objectives depends on clear understanding of the strengths and weaknesses of the incubator and designing an implementation framework within which it extends its services to the clients effectively and thereby maximize its success probability.

The financial support from the Government is very critical for maintaining the operations of the incubators and to ensure the sustenance. This is apparent from the study that out of the 42 incubators involved in the study, 38 incubators had received the funding support from the Government.

Majority of the incubators are established by the universities. This facilitates the incubators to utilize the infrastructure, equipments, machineries, and other facilities of the incubators for the purpose of its clients. For the incubators established within the academic background, a wide opportunity prevails to develop and commercialize the technology products which enhance the performance of specific industries and to cater to their services to the start-ups from different sectors. This had resulted in categorizing the majority of the university incubators into mixed use or industry specific incubators.
The performing incubators had ensured their sustainability by generating revenue not only through the services extended to the clients but also through other services. The other services of an incubator include but not limited to equity participation, projects, and consultancy assignments with other organizations, training programmes, royalties and other activities based on the strengths of the host institution.

The success of the incubators was measured on four parameters:

1. Occupancy Level.

   The benchmark for the occupancy level of an incubator is considered as 85%.

2. Sustainability of the Incubators

   The incubator which is able to break-even their operations within 5 years of its establishment are considered as incubators which are able to be sustainable.

3. Number of Incubatees in 1000 sq.ft of space.

   The incubators which are able to accommodate on a average 3 incubatees in a 1000 sq.ft of space.

4. Survival Rate of Incubatees.

   The benchmark for the survival rate of graduated incubatees is considered as 85%.
The incubators were classified based on their ability in achieving the above four parameters and the key elements of each factors that influenced these performance parameters were analysed.

The following are the key findings on the role of elements of the factors influencing the success of the incubators.

- **Incubator Facilities**

  The incubators should sensitize the key stakeholders of the host institution about the incubation programme. The incubator managers should establish a two way communication channel between the functional departments and the incubator. On the other hand, the incubator managers should have a thorough knowledge about the resources available with each of the functional departments of the host institution. This knowledge about the available resources shall include but not limited to the expertise of the department, available knowledge capital, equipments, machineries, laboratory facilities, and testing facilities. The relationship established by the incubator with the functional departments of the host institution will help the start-ups to leverage the physical facilities of the host institutions to the maximum extent for their business operations. The maximum utilization of the facilities of the host institutional resources improves the efficiency and effectiveness in the operations of the start-ups.

- **Support Services**

  The incubators provide support services viz., legal services, accounting services, patenting services, library facilities, security services, communication services etc. The requirements of the support services of the start-ups are highly dynamic. The needs of the support services for the start-ups changes according to the nature of the business, technological
development happening in the specific domain, ease of accessibility to the services outside the incubators, and cost to be incurred by the start-up. The incubators during the initial stage would have established a set of support services and would continue the same during the various stages of the growth. The incubators should ensure that their support services matches the requirements of the start-ups and should also be dynamic and cost effective. To ensure the dynamism in the services provided and to improve the performance, the incubators should establish linkages with other service providers. This helps the incubators to avoid duplication of resources by the incubator and provide support services cost effectively.

- Incubation Program

Incubation Program developed by the incubators is the critical factor for the success of the incubator. The incubation program translates all the resources developed by the incubators into products and services to be utilized by the clients. The incubation program is the catalyst for the success of the incubator. The incubation program keeps the incubation managers and the start-ups intact in achieving the goals of the incubator and incubatee. Dynamism is the nature of any business activity and the incubation program should be equally dynamic in ensuring the success of the business activity. The changes in business environment happen due to many reasons and the incubation program should be dynamic enough to meet the challenges created due to the changes in the business environment. Flexibility in the incubation program is the key to ensure the performance of incubator as well as the incubatee. The incubator should focus on providing tailor made support to the start-ups and should extend flexibility in the infrastructure, charges for infrastructure, payment period and method, repayment in seed fund and in other services as the case arises.
Financial Support

The importance of early stage funding to the start-up has been understood by the incubators. As a result, the incubators had created the seed fund mechanism in the incubator to support start-ups and had also established linkages with the government agencies for loans and grants to its incubatees, financial agencies, angel investors, and venture capitalists to extend financial support to its incubatees. The incubators being established by the Government will have easy access to the Government schemes and programmes to support the start-ups. These grants and loans through the Government schemes and programmes may help the start-ups during initial days but to ensure the growth the incubation manager should leverage the other funding resources. Having established the linkages with the financial sources, the incubators lag in understanding the readiness of the start-up for the funding support, funding routes – equity or debt, about the funding agencies – angel investor or venture capitalists or any other agency. The incubator managers have to be prepared to play the role of investors by building their capacity through training programme, interaction with the funding agencies, mentoring by the investors etc. This capacity building of the incubator managers will result in handholding the start-ups for investment readiness, routing the start-ups to appropriate funding resource and effective handling of the seed fund or any other funding support. This increases the entrepreneur pipe line of the incubator and also survival rate of the incubatee in acquiring further rounds of funding support for the growth of the business.

Selection Criteria

The study reveals that the incubator may establish a set a selection criteria but these criteria shall be classified into two parts viz., related to the start-up and related to the incubator. The criteria related to the start-up are the team, the technology idea, and the age of the start-up. The criterion related to
the incubator is the ability of the firm to match the incubation program. A perfect match between the start-up team, idea, age of the start-up, and the incubation program will make the other resources to fall in line and will ensure the success of the incubatee and thereby meet the objective of the incubator.

- Mentoring

The mentoring support provided by the incubator to the incubatees is one of the critical supports of an incubator. Every start-up is unique and their problems are unique in nature. Mentoring program established by the incubator addresses these unique problems and makes the start-up to move to the next level. The incubators should develop a mentoring program according to the stages of the life cycle of the start-up. To make the mentoring support more effective, the incubators shall establish a pool of mentors and develop a system for matching the mentors and mentees and to ensure that the start-ups meet the objectives of undergoing the mentoring programme. The incubators which had established a strong mentoring program had increased the survival rate of their incubatees.

- Networking

The networking capability of the incubators with the outside world had resulted in the better performance of the incubator and the incubatee. The incubators should continuously interact with the organizations and agencies which are related to promoting entrepreneurship and innovation and should establish relationship with those organization and agencies. This networking activity increases the performance of the incubator and incubatee by many ways. The benefits for the incubator include building the capacity of the incubation manager through knowledge acquisition, increasing the client pipeline for the incubator, building the mentor database of the incubator,
building the brand of the incubator, leveraging the resources of the other organization at optimum cost, establishing synergy between two organization thereby providing cost effective varied services to the incubatees. The networking capability of the incubator helps the incubatee to easily access the scarce resources across the country and outside the country to enter into new markets, access to the mentors, business professionals, and access to the prospective clients. Higher the networking capability of the incubator, greater the success rate of incubator and its incubatee.

- Incubator Governance

The board of the incubator management is critical for the success of the incubator. The incubator board should be comprised of members representing various fields and stakeholders of promoting entrepreneurship. The policies and systems laid by the incubator board provide the directions for the incubator manager to lead the incubator. Hence, the board should establish a clear and sound incubation policy and at the same time allow a considerable level of flexibility while implementing the incubation policy. The incubator board should provide overall directions and should involve in strategic decisions of the incubator rather than involving in day to day operations of the incubator. The incubator board should delegate required authority and responsibility to incubation manager to carry out the day to day operations of the incubator and for the flexibility in the incubation program.

The following are the significant observations on the models developed by the study.

- There is no significant relationship between Performance of the Incubator (number of incubatee per 1000 sq.ft, occupancy level, and sustainability of the incubator) and the Performance of Incubatee (survival rate of incubatee).
• The Incubator Facilities, Selection Criteria and Incubator Support Services are the formative constructs which forms the key resources as inputs for the operation of an incubator.

• Among the first order dimensions, Incubator Facility, Incubator Support Services and Selection Criteria which constitutes the formation of incubator resources, the Incubator Support Services ($\beta=0.187$) has a strong say in the operations of the incubator followed by the incubator facilities ($\beta=0.150$). This implies that the prospective clients are attracted toward the incubator based on the services rather than the facilities alone.

• It was found that the Incubator Resources has a strong and significant relationship with Incubation Program ($\beta=0.216$) and is strongly and significantly related to the performance of the incubator ($\beta=0.280$) This observation is highly relevant and implies that Incubation Program is the key process for effective operation of an incubator and the Incubation Program shall be designed and implemented effectively for better results of the incubator and incubatee.

• The Incubator Governance has more effect ($\beta=0.367$) on Incubator Program than on Incubator Resources ($\beta=0.213$) and Graduation Criteria ($\beta=0.250$). This implies that the Incubator Management should focus more on implementation of the incubation program and thus periodic review of the incubator policies will help the incubator management to modify the policies to the needs of the business environment and will incorporate flexibility in its implementation. This leads the incubator management to achieve its performance
- The Financial Support, if provided with the Mentoring Program creates a significant relationship with the Incubation Program ($\beta=0.066$).

- The Networking Support of the incubator has a strong relationship with the performance of incubator ($\beta=0.117$). This implies that the networking capability of the incubator helps not only the incubator to achieve its objective but also increases the survival of the incubatee.

- The Graduation Criteria ($\beta=-0.194$) had no significant effect on the performance of the incubator.

### 7.2 IMPLICATIONS OF THE STUDY

The research would help the incubation managers in managing the incubator effectively and efficiently. The detailed discussion on the factors influencing the performance of the incubator would assist the incubation managers to identify the role of each element in the factor influencing the performance of the incubator and will help the incubation managers to concentrate on the elements that will improve the performance of the incubator.

The research helps the new incubators to understand the operating pattern of the successful incubator and assists them to lay down their strategies based on their operating environment.

The research helps the incubation managers to understand operations of the better performing incubators and the level of importance given to each of the elements by better performing incubators. This helps the incubator management to lay down the policies and systems which are sound and flexible and which cater to the dynamic needs of the start-ups.
The model developed as a result of the study helps the incubators to understand the influence of each of the factors in the performance of the incubator. This leads the incubator managers to decide on the areas where the incubator resources have to be strengthened to cater to the needs of the start-ups and for the sustainability of the incubator.

The research work helps the incubator managers to take strategic decisions on incubators’ growth. The model developed supports the incubation managers to formulate the strategies according to the stage of the incubator in the incubator’s life cycle. The strategic decision may include the directions to allocate the resources judiciously based on the impact that each factor creates on the performance of the incubator. The incubator will have a clear understanding of where to invest the resources to have a balance between operational and financial sustainability.

The model developed as a result of the study specifies Incubator Facilities, Incubator Services and Selection Criteria as the input for the incubator formation. This implies that the incubation manager, at the early stage of the incubator formation, should look at the effective utilization of the space allotted for the incubation purpose. A cautious decision has to be taken by the incubation managers on the space for the common utilities and the space for incubatees. The space for the incubatees should be modular which makes the incubatees to expand their operations within in the incubator during the incubation period.

The research model makes the incubation managers and the stakeholders to understand that the revenue generated by the space available for the incubation purpose will not address the financial requirements of the incubator for operations. The incubation managers should strategize, implement services, and support activities that are in need for the prospective clients in the defined thrust areas. The incubation managers should strengthen
their services and support to the incubatees and other clients through the resources which are accessible to the incubators – team, infrastructure, facilities available with the host institution, networking, projects and programmes of government and non-government agencies. The effective and efficient implementation of the services provided by the incubator will generate revenue for meeting the operational needs.

The selection of the incubator clients is a key input for the successful performance of the incubator. The clientele of the incubator will influence the incubator management and other stakeholders to decide and design the nature of facilities, support and services to be provided by the incubator. The diversified profile of the clientele and the stage of the start-up in the business life cycle will make the incubator management have wide spectrum of services to cater to their needs and will develop a deep insight on the type of services provided.

The research indicates that the sustainability of the incubator, which is one of the key challenges of the incubation, can be effectively addressed by judicious utilization of the space available for the incubation purpose, the effective implementation of the services and support provided by the incubator manager.

The study reveals that the incubation program developed for handholding the start-up should be highly flexible and should be able to meet the requirement of start-ups. The flexibility in utilizing the facilities, charges for the utilization and payment of charges will lead the incubatee to incur the expenses economically.

A well-designed pre-incubation program for the prospective clients to make them to understand the business processes and sensitizing them on
the challenges in the technology development and commercialization process will improve the performance of the incubator and incubatee.

The results of the study reveal that the incubator managers and the team should develop the skills of networking with the stakeholders of the entrepreneurial ecosystem since inception. This will lead to the establishment of mentoring platform for the incubatee with different profile and expectations and will also help the effectiveness of the incubator by establishing partnerships.

Overall, the study assists the incubator management to develop a unique operating model which best suits their operating environment that includes the objectives of the incubator, stakeholders, nature of the incubator, and ownership of the incubator.

7.3 LIMITATIONS OF THE STUDY

This research was conducted within the context of the performance of the incubator limited to 42 incubator respondents out of 80 incubators identified from the infoDev incubator network. A larger and more representative sample may give broader representation to the measurement of factors influencing the performance of the incubators. The data collected for the study represents few countries and therefore, extrapolating the results to global incubators may prove to be insignificant.

The study had not taken into consideration the business environment, the economy within which the business incubator is operating. The thrust area of the incubator that supports the start-ups may influence the results of the study.
The modality of the funding support that the incubator receives from the government or from any other agencies for its operations has not been taken into consideration for the study.

The following are certain general limitations of this study.

- The behavior of the incubation manager while filling the questionnaire was unpredictable.
- The shortage of time to collect data was a constraint.
- There may be error due to bias of respondents.
- The experience and exposure of the respondents as incubation managers at the time of study would have been limited.

7.4 CONCLUSION

The major conclusion from the study is that the incubators should consider developing a time frame for the implementation of the various factors of the incubator that will result in the better performance of the incubator. The strategies of the incubator for the effective operations should lead to the sustainability of the incubator and should also cater to the changing needs of the incubatee. The study had revealed that the effective incubator governance creates a positive impact on the performances of the incubator.

7.5 SCOPE FOR FUTURE RESEARCH

All the limitations may be considered as an opportunity for the future scope of work. As the number of incubators is increasing globally, the performance of the incubators may be studied according to the classification of the incubators based on the thrust area of the incubators. A separate study
shall be carried out to analyze the factors influencing the performance of mixed use incubators, industry specific incubator, and technology based incubator which will give more insights into the factors affecting the performance of the incubators.

A comparative study of the operations of the incubators at the continent level with similar nature of the operations shall be carried out. A study on the incubators shall be carried out based on the objectives of the incubators across the regions.

7.6 SUGGESTIONS

Some of the suggestions made by the researcher are as follows:

- More number of incubators are coming up and no single model is a successful model for any of the incubator. Hence the incubator management should develop a unique model for its operational success based on its operating environment.

- The success of the incubator depends on the incubation manager capability of executing the policies. The incubator management should focus on developing the capability of the incubation manager through continuous training programmes and capability building programmes.

- If the incubators operate in standalone environment, the incubator will not be so successful in bringing good practices of the incubator operations. The incubators should actively participate in the events and programs organized by the incubator associations and should be part of the incubator networks from the early days of establishing the incubator.
To have a clear understanding on the happenings in the business environment, the incubator management should actively participate in the industrial association events and programs. This will help the incubator management to proactively modify the policies and systems to support the start-ups for achieving the results effectively and efficiently.