

# Incubation Success Factors Analysis

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*Abstract* - In addition to all the global efforts to innovate in product or process technologies, sustaining these innovative attempts has always been a growing concern. Due to the set goals, the geographical features of each incubator and the needs of the founding companies, the start-up processes of the various incubators are very different. Regarding the evolution of business incubators, the experts suggest that one of their main contributions is to promote the dissemination of knowledge, ideas, technologies to start-ups through their business incubation networks. An area that is not specifically addressed in existing business incubations, but it also has an impact on helping new businesses create long-term value through the creation and growth of intellectual capital. Corporate bullying is the brief and facilitating help given to launch initiatives by transporting complex administrations and unique conditions in order to improve their chances of survival in the initial period of expansion and to define their expectations in development.

*Index Terms* - Enterprises, Economy, Incubation, Organization component, Principal Component Analysis, Kaiser-Meyer-Olkin

## I. INTRODUCTION

Many scientists and industry pioneers have singled out business incubation as an elective strategy for starting up and strengthening independent businesses. The hatcheries encourage the creation of a large number of new businesses and enterprises which add value and development to the economy. Eight factors that could impact Scripture were the recognized exposure and success of the incubators. These variables incorporate perspectives, for example, executives, foundations, systems and associations, mentoring, skills advancement and grants. [1] Business bullying is a process designed to help organizations with development potential. It may very well be focused on one or a combination of start-ups, initial organization expansion and established organizations with new elements / directions. Business incubation encourages the initiation and initiation of new business adventures by providing them with secure infrastructure, focused resources, and an area for improvement in which the organization can be successful. A business start-up is usually the physical reference to the method through the office layout through which the intended measures to strengthen the company can be conveyed. There are also virtual business development programs, but they attempt to convey business formation procedures without physical premises. Business incubators offer contact or hotdesking offices as often as possible, such as customer meeting rooms, mail collection offices and address brokers. Virtual hatcheries are often only part of a larger organization that is strengthened by or in incubators. Own office and rent payment, although affordable. [2] So far there has been considerable support, generally up to the exit point. Occasionally, support is sponsored by the financial support of the most important taxpayers such as the RDA, the regional experts and by the in kind support of companies and specialists of the affiliated companies. The degree of

possession is given on a decreasing scale, with purchasers paying publicized fees for graduation. Competent business incubators are a strong tool for economic development. They promote the construct of growth through the modernization and application of technology, support monetary development ways for the event of trivial businesses and reassure growth inside native economies, whereas additionally providing a mechanism for technology transfer.[3]

### **1.1 TYPES OF SERVICES**

Studies of different types of incubators have led to the division of incubators into roughly two general models, based on their diversity determined by the temporal distribution of the space provided. The first model includes a national or regional government business innovation center that provides mid- to long-term services of primary interest, typically to companies in traditional sectors. Incubators in this category may have limited or no access to advanced technical knowledge, risky capital, advanced management and economic/financial skills, and may have no contact with universities and other research institutions. [4]The second model includes incubators of private businesses and private start-ups that provide short-term services, typically with a focus on high-tech and knowledge-based companies. The most popular culture management is:

- I. Help with business basics
- II. system administration practice
- III. demonstration of help
- IV. statistical survey
- V. Accounting/Cash Management Support
- Vi. Access to bank credits, advance assets and assurance programs
- Vii. Help with introduction capacities
- Viii. Connections to advanced education assets
- Ix. Connections to vital collaborators
- X. Access to set apart messenger financial specialists or investment
- Xi. Complete business preparation program
- Xii. Warning sheet and tutor
- Xiii. Unique evidence for the coaching team
- Xiv. Support business execution
- Xv. Supporting the commercialization of innovation
- Xvi. Support management consistency
- Xvi. Licensed Innovation Executives [5]

Business incubators designed to guide start-ups in an environment that drives growth processes, reflecting a strong desire to promote innovation and entrepreneurship through targeted policy measures.

## **II. IMPORTANCE OF BUSINESS INCUBATION**

A business incubator is any organization or entity that provides business or technical support to startups and/or facilitates or coordinates interactions between startups and a network of greater business, technical or financial resources. The business incubator network includes the incubator and its collaborative associates, who participate in and support individuals, organizations, and startup clients. [6] Initiatives are new, or considered new, knowledge, skills, tools, ideas, and other forms of technology (technology, human, communication, and organic ) are invoked or actually implemented, in a certain way, to produce some form of value. Rethinking in business highlights local, regional and national financial methodologies and is a key factor in improving most economies, especially those with better planning to build an information-based economy. [7] The advantages

of business incubators are many, possibly, helping new organizations deal with the difficulties that often led to their initial breakdown;

Helping business people cope with the confusion and anxiety associated with starting a business.

provide access to a wide range of experts, trainers, financial experts and government advice. It brings desirability and reliability to the commercial center.

Supports faster real-world development and tangible survival rates for new and existing organizations.

Motivates back to urban areas and local government.

Empowering emerging organizations to become independent organizations within the network

Current research confirms the rapid development of the business environment is emerging. [6] The business analysis process has been emphasized as a method of gathering a set of financial and social needs, often used as statements of goals, direction, and purpose.

## 2.1 BUSINESS INCUBATION DEVELOPMENT

The business incubation process does not take place in the office. Undoubtedly, there are some areas of development that simply provide a target workspace. Business incubation is typically an organization that provides personalized and practical support during the lifecycle stages of a business organization as shown in Figure 1.

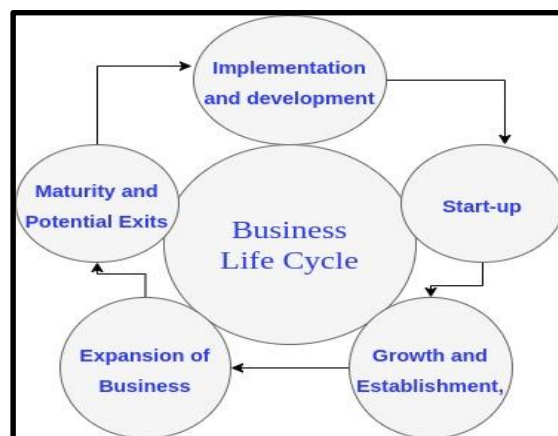


FIG 1: BUSINESS LIFE CYCLE

In some cases, a supervised workplace or converted office space includes:

There is no and insufficient support for Business Link or intensive business support or training to access the multiple dimensions of the business as usual.

Access to the wider neighborhood and provincial systems, especially money, professional skills, etc. is not available.

Lack of interest in development organizations defining/sharing requirements, often limited (simply) by ability to pay;

The lack of a promotion approach strongly encourages organizations to stay as long as they can pay their rent.

Significant increase in the rental services are not intended to support client organizations. [8] In general, business incubation focuses on the training of a growing client organization, with the understanding that the organization of an office space is in any case an ancillary key component. While business ideas provide an area where new startups and organizations can accelerate development to a level where they can be “fly from home”, the management provided by a controlled workspace regularly. It meets the needs of self-supporting organizations. [9]

### III. FACTORS AFFECTING BUSINESS INCUBATION

Although there are a number of factors that can influence a company's ability to grow, there are certain areas that business leaders should pay special attention to, for example, the availability of financial, human and social assets [10]. A leader's professional skills and ability to adapt and adapt to changing circumstances are just as important as their ability to train and develop their employees. Likewise, no venture can be undertaken without creativity and awareness of opportunity. Here are four key factors that every entrepreneur should pay special attention to if they wish to grow their business.

#### Social and Personal Qualities

A business leader's attributes, such as behavior, personality, and mindset, can undoubtedly influence the development of a business. In addition, abilities, including education and training, can raise standards in some industry sectors, while social capital influences access to assets. Board engagement, family history, effective skills, and business sector training are additional modifications that will affect the progress roadmap.

Business Structure and Leaders. The way a business is organized, the visibility of its goals and control groups, and in particular the ability to make informed decisions about its activities[11] exclusively influences the effective promotion of a business.

#### Business structure and managers

Demonstration of how a business is organized, goals and control groups, especially the ability to make informed decisions about activities[12] will have an outstanding impact on the effective promotion of a business.

#### External Parameters

External factors, unaffected by all goals and objectives, also influence business development. These factors are the social, political and financial status of the country or region in which the organization operates. A trigger for large corporations Change can be seen in many areas, from people-measured credit to the complex relationships between social, political and monetary conditions that change regularly at national, provincial and regional levels.[13]

#### Area

Different sizes, evaluations, and accuracy of attention to subject areas can affect the development of new organizations. In normal operation, the variety of costs and availability of operations, buildings and maintenance is also convincing. All things considered, manager-centric organizations are generally versatile and use a variety of methodologies to manage these community elements to limit their impact. [14] A simple direction of development does not yet guarantee progress. A business established to realize an opportunity in a recognized field should have a more rational direction of development than a business created by driving factors such as, for example, the absence of electoral odds. In fact, it is very important to recognize the components that are most important to your business and take them into account to scale and evolve your industry.

### IV. RESEARCH FRAMEWORK

The research framework presented here is shown in Figure 3. It shows the interaction between a business incubator and a startup. This has led to the dissemination of experiences, new ideas and technologies for the development of new capital. Assess how a network of business incubators supports innovation and business growth through acquisitions, knowledge, ideas, new skills, skills and tools [15]. To test whether these factors actually affect the growth of startups context of the degree of impact of innovation during incubation. In addition, it is necessary to compare the various intellectual capital levels of start-ups and the strengths of intellectual capital development of incubators.

This study aimed to collect specific data and summarize the factors influencing business growth. Data collection tasks are addressed by examining the prospects of various companies to run a successful business. These include:

(1) intellectual capital in terms of human capital, structural capital and capital relations of startup incubators;

(2) the frequency of innovation diffusion opportunities that contribute to the development of knowledge capital during the incubation period, and

(3) the strength of the incubator service leading to the development of the knowledge capital of startups.

Several Indian incubators are affiliated with well-known public universities where young entrepreneurs have little or no experience. Financial support and resource provision from universities and governments is making the era of incubators obsolete by providing greater freedom in many ways compared to other incubators. This is also evident in the descriptive statistics. In other words, there was no clear trend to indicate the age and number of graduates, and in fact, incubators at famous universities tended to create more companies regardless of their start-up years. [16]

Although many studies have looked at sales revenue as a way to quantify success, it can be argued that in recent years many incubators have not only benefited from the products of their client companies, but have also contributed new creations as a noble gesture. Desperate time or other reasons. This makes it impossible to justify the success of a business incubator with sales.

In many studies, the number of client companies graduating was considered an indicator of the success of a business incubator. However, it is also necessary to consider the responsibilities and obligations of the incubator not only to produce the enterprise, but also to make the enterprise self-sufficient. In the end, a launch company that was collapsed by market pressures does not reflect the true success of the incubator.[17]

## V. FACTOR ANALYSIS

Review questions to consider for factor analysis are:

1. How many years has the incubator been operating?
2. What domains do your incubators serve the most?
3. How many businesses has the incubator helped since its inception?
4. How many companies have closed since its inception?
5. The number of firms produced.
6. The number of active enterprises in the incubator.
7. Categorize the above numbers into the following categories: An active tenant occupying a facility.
8. Categorize the above numbers into the following categories: Virtual/Non-Virtual Clients not part of the facility.

Teese tests indicate the quality of the data. The KMO value must be greater than 0.5 and the Bartlett value must be less than 0.05.

TABLE 1: KMO AND BARTLETT'S TEST

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.618
Bartlett's Test of Sphericity	Chi-Square value	164.098
	Degrees of Freedom	28
	P value	< 2.22e-16

- **Biplot:** This graph graphically shows the presence of factors.

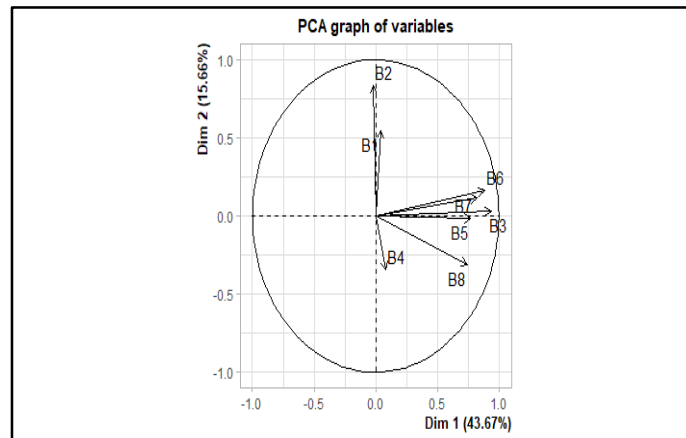


FIG 2: BIPLLOT FOR PRESENCE OF FACTORS

The Bi-plot clearly verifies the existence of Correlations between B3, B5, B6, B7, B8 (Henceforth considered Factor1), existence of correlations between B1, B2 (Henceforth considered Factor2), and B4 being a standalone variable (Henceforth considered Factor3)

- **Scree plot of individual Variances of Dimensions**

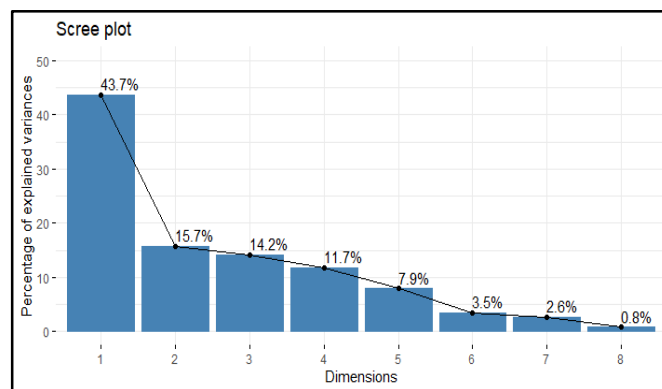


FIG 3: SCREE PLOT OF INDIVIDUAL VARIANCES OF DIMENSIONS FOR SECTION B

- **Scree plot of Eigenvalues of dimensions**

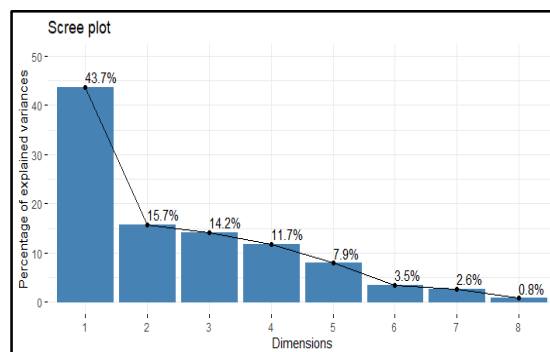


FIG 4 : SCREE PLOT OF INDIVIDUAL VARIANCES OF DIMENSIONS

- **Scree plot of Eigenvalues of dimensions**

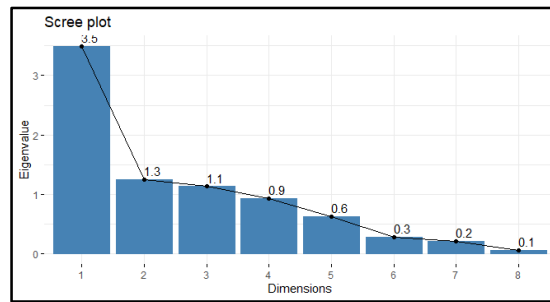


FIG 5 : SCREE PLOT OF EIGENVALUES OF DIMENSIONS

Using the Scree plots of individual variance of dimensions and the Scree plot of Eigenvalues of Dimension, we were able to infer that the first three principal components have eigenvalues greater than 1 (3.5,1.3 and 1.1 respectively). These three components explain roughly 74% of the variation present within the data. The scree plot also depicts that after the third dimension the eigenvalues begin to form a straight line. Since 74% explicability of the amount of variance in data is adequate, the three factors have been selected for the thesis.

- **Correlation Plot: Correlation plot shows factors and weights of factors or dimensions.**

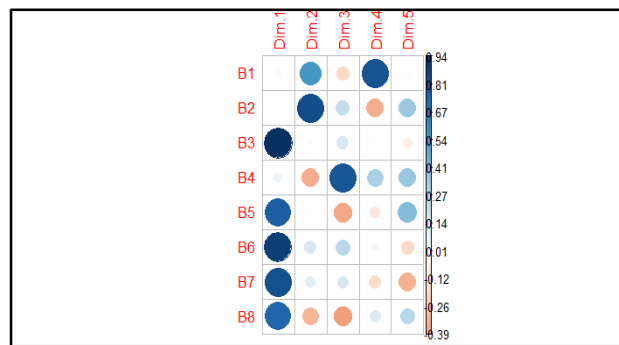


FIG 6 : CORRELATION PLOT FOR SECTION B

The correlation heatmap which develops a matrix of the results of Pearson Correlation coefficients corroborates the existence of Dimensions and their correlation value signified by the colored circles. Correlation ranges from +1 to -1. Dark Blue circles signify strong linear correlation; white spaces signify no correlation between the dimensions and the variables.

TABLE 2 : FACTOR LOADING, EIGEN VALUE AND PERCENTAGE OF EXTRACTION FOR SECTION B

Factor	Question	Factor Loading	EigenValues	% of variance	Cumulative %
I	B3	0.938008723	3.49343785	43.6679731	43.6679731
	B6	0.885259071			
	B7	0.820813674			
	B5	0.769906733			
	B8	0.744797054			
II	B1	0.545812043	1.25247749	15.6559687	59.3239418
	B2	0.833366073			
III	B4	0.805038942	1.13329815	14.1662269	73.4901687

The Factor loading, Eigen Value Table above provides the strength of the relation between each variable to the underlying factor. It is evident from the table that most of the variables have high factor loadings to the factor they are correlated to; this is considered a strong association for factor analysis.

The factors identified in the section are

1. Client Base
2. Maturity and Specialization
3. Client performance and Attrition Rate

Variables that make up the first factor include the number of client companies and their split into virtual online clients or clients of the enterprise. Obviously, the more customers you have, the more successful your tech business incubator . This can be attributed to better knowledge sharing and mutually beneficial relationships with other customers. This contributes to the overall development of the young enterprise. Companies of all ages and at different stages of the business lifecycle provide valuable feedback and lessons to other customers. Maintaining a diverse pool of relatively young and old client companies provides a solid foothold for technology business incubators in the marketplace.[18] It also provides consistent returns with minimal risk. New clients with high volatility have the potential for rapid growth, which generates stable income when ideally balanced with relatively mature stable clients. We can see from the data that the number of our own customers is much higher than the number of our online customers. However, the idea is rapidly gaining momentum to bridge the gap between India's developed and developing cities.

variables that make up the second factor include the maturity of the incubator and the sector in which it is used the most. Our data clearly shows that most of the older incubators included in the dataset are more successful due to experience. Incubators that focus on one area rather than invest in others tend to be more successful. This can be described as a complete investment in up-to-date equipment and other resources for a specific subject area, as opposed to a multi-domain technology business incubator that invests diversified in different equipment.[19] A domain-focused technology business incubator can also keep customer teams, employees and stakeholders successfully aligned with their core vision and goals.

Variables in the third factor include the number of startups that went out of business after exiting the technology business incubator. An incubator with a lower dropout rate will definitely have a higher success rate. This is because if incubators do not provide adequate holistic training to their clients, it leads to young companies unable to adapt and operate in real market conditions. Building highly interdependent customer relationships will inevitably fail when faced with the real market. Incubators that cannot provide comprehensive training to their clients will eventually fail even the most successful clients in the years after graduation. Therefore, a low dropout rate is a success factor for technology business incubators.[20]

## **Findings and Discussions**

The main objective of this study was to identify global factors contributing to the success of technology business incubators, based on the extensive literature, and factors important to the post-environmental development of fast-growing developing countries. Unlike the West, a country where social, economic and cultural influences are important. Incubators build sustainable and robust business support infrastructure and enable entrepreneurial teams to build successful businesses. Factors such as space, design, networking, partnerships and connections, service providers, experts and consultants help create a holistic growth environment for emerging businesses. Collaborative spaces with specialized hardware, IT infrastructure, security support, and administrative support are all essential to a successful technology business incubator. Incubators close to education centers or universities tend to have better infrastructure, as they contain not only hardware, but also a pool of raw talent that is easily accessible in the form of students, experienced teachers, and others. Experts who can promote innovation and creativity.[21] For managers, networking opportunities with the right people and organizations are paramount. This is because entrepreneurs with experience in the field complement other available technologies to increase the effectiveness of the incubator. Entrepreneurial networks also connect with public and private institutions and businesses to tap into skilled resources.



Computing and information services, legal assistance, and intellectual property development for critical business services are rated higher in our belief that entrepreneurs lack the broad range of essential business skills and complementary skills needed to run a successful business. Capital market access was highly rated, which may be due to the team's inability to reach potential investors. Factors such as business processes and transformation, human resources, branding and promotion, and logistics consulting within the framework of managed services have received significant audits as they carry the team responsibility to ensure these services are fully focused on the project. [22] Business incubators play a key role here. We note the urgent need for cooperation and interconnection of incubation centers across the country. This could be facilitated by creating a national platform for hatchery consolidation.

### **Conclusion :**

A business incubator plays a key role in building a successful business. 1. A key factor for corporate success is creating a stable and strong infrastructure to support entrepreneurship and entrepreneurial teams. 2. Factors such as space, design, networking, partnerships and connections, service providers, experts and consultants have proven to play an important role in creating a holistic growth environment for nascent businesses. 3. A key element of a successful technology business incubator is a collaboration room with specialized hardware, IT infrastructure, and security and administrative support. 4. It is noted that incubators affiliated with educational hubs tend to have advantages of infrastructure, combination of incubatees` raw talent and experienced expertise as a catalyst to innovate and create. 5. In view of managers the networking with relevant individuals and organizations is paramount since entrepreneurs with domain expertise leverage the performance of the incubator. 6. Running a business successfully requires a variety of important business skills. Information services, legal and intellectual property, and a wide range of critical business technologies and complementary technologies were ranked higher.

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