Chapter 2
Literature Review

This chapter explains the understanding of prior research work done in similar area. Prior study of startup ecosystems, lifecycle stages, relevant organization and management theories are studied to narrow down the focus of the current study area. Government policies and regulations pertaining to Information Technology services startup support ecosystem in India are studied to understand the various policies, incentives, concessions given to enable and support technology startups by GOI, GOK. Depending on the extensive work already conducted, the research gap is derived. The specific research gaps identified and considered are thoroughly reviewed with the current study research objectives and finding answers for the current research questions. Following the identification of research gap, formulation of possible conceptual framework is arrived. The domains which are identified to bridge the research gap are formulated into various research constructs. The various initial constructs are later used to develop the research methodology of the current study which went through many modifications as needed during data collection due to the exploratory nature of data collection. Again the constructs went through modifications during content analysis phase due to the nature of exploratory study with in-depth probing interviews.

Literature Review is organized as below for the relevance of the research work under two areas:

a) Prior research work in startups/Technology startups/Startups in India
b) Management and Organization Theories and frameworks
c) Study of existing startup support ecosystem

Review of existing research work related to startups around various geographies, India in particular, Information Technology services Startups are explored, any concepts / frameworks which are already studied and proven in startups. Literature review of existing book of knowledge and existing conceptual frameworks and theories proposed in areas of startups are conducted.
Prior Research Work in startups / Technology Startups / Technology Startups in India

Meta-analysis of success factors for new technology ventures (NTVs)

The definition of a startup varies, but in general (Swanson and Baird, 2003), it is defined as a setup which is small, mostly focused on hi-tech and which is trying to develop a new product or service. “A startup is a temporary organization in search of a scalable, repeatable, profitable business model “(Blank and Dorf 2012). “Entrepreneurship is a way of thinking, reasoning, and acting that is opportunity obsessed, holistic in approach, and leadership balanced for the purpose of value creation and capture” (Timmons, 1999) . New technology ventures (NTVs) have positive effects on creation of job opportunities and can help industries with disruptive technologies (Christensen & Bower, 1996). Initial 2.5 years of life is very risky, but in case the entrepreneur survives this initial period, chances of failure post initial years are rather low (Casson, Yeung, Basu, & Wadeson, 2008). However, technology startups face the highest failure rate among new ventures with a survival rate of only 22% in the
United States (Song, Podoynitsyna, Bij, & Halman, 2008) compared to an overall survival rate of 45% (Shane, 2000).

Song, Podoynitsyna, Bij, & Halman conducted a meta-analysis using Pearson correlations as effect size statistics, to analyze the findings of 31 studies and identified the 24 most widely researched success factors for New Technology Ventures (NTVs) (Song, Podoynitsyna, Bij, & Halman, 2008). "After correcting for artifacts and sample size effects, they found that among the 24 possible success factors identified in the literature, 8 are homogeneous significant success factors for NTVs (i.e., they are homogeneous positive significant meta factors that is correlated to venture performance): (1) supply chain integration; (2) market scope; (3) firm age; (4) size of founding team; (5) financial resources; (6) founders’ marketing experience; (7) founders’ industry experience; and (8) existence of patent protection. Of the original 24 success factors, 5 were not significant: (1) founders’ research and development (R&D) experience; (2) founders’ experience with startups; (3) environmental dynamism; (4) environmental heterogeneity; and (5) competition intensity" (Song, Podoynitsyna, Bij, & Halman, 2008).

**Model for Critical factors for success of startups**

In prior research study, a model identifying critical factors for success is proposed by Chorev and Anderson (2006). It divides these factors in two groups: internal (e.g., team, product, and marketing) and external (e.g., politics, economy, education). Their study is based on experience and tacit knowledge of Israeli high-tech venture leaders. Chorev and Anderson (2006) used interviews to collect data. Based on the experience collected from 13 high-tech leaders, Chorev and Anderson (2006) found that one of the major faults in many startups is a focus on technology, while the marketing departments are established very late and funding has to be timed correctly .Chorev and Anderson proposed the top eight factors for high-tech startup success, in order of importance: (1) team commitment, (2) team expertise, (3) customer relationships, (4) core team expertise, (5) management, (6) strategy, (7) R & D, (8) the idea itself. External factors as politics, general environment and economy are shown as non-critical aspects for startup success.
Survival rates of Startups across the globe and India

The below data is for USA where startups are categorized as small businesses and their survival rates (US Bureau of statistics, 2010). Five years after they were started, the Census Bureau finds that only 45 percent of the new establishments were still alive while 55% cease to survive.

![Image: Survival rates of establishments, by year started and number of years since starting, 1994–2010](image_url)

*Figure 3 – Survival rates of establishments (1994-2010, Source: U.S. Bureau of Labor Statistics)*

Entrepreneurship in India occurs in ‘far more encompassing and far reaching ways than in developed countries’, and could therefore be far more complex, ‘for there is so much more that needs to be done’ (Tarun Khanna, 2007). Commentators today celebrate the ubiquitous Indian attitude of ‘Jugaad’ (a Hindi word roughly translated as ‘creative improvisation…atool to somehow find a solution based on a refusal to accept defeat, and calling on initiative, quick thinking, cunning and resolve…to quickly fulfill market demands at the lowest possible prices’ ( Kamal Nath, 2007)) as an entrepreneurial trait that has been as much a part of everyday Indian living as its rich tradition of philosophy and speculation.

The salience of Entrepreneurship in India has intensified in recent times, particularly with the rise in knowledge-intensive services. New entrepreneurs who do not belong to traditional business communities have begun to emerge in large numbers. Entrepreneurship has grown
rapidly, visibly so, creating wealth and generating employment, especially in the past twenty years (entrepreneurship in India, NKC Report, 2008). The software industry, in particular, its initial growth arising largely out of the ‘interstices inadvertently left untouched by the State’, has today taken giant strides, with the top companies working ‘within the market and with a fuller understanding of the rules of international commerce (Entrepreneurship in India, NKC report, 2008).

However, the need of technology know-how in Information Technology services seem to depend on early adoption of latest technology in businesses and its dependency mostly on the skills and capabilities and services assets in terms of people capabilities which is the core of IT Services sector. The economic liberalization introduced in 1991, promoted new venture setups, reduced the bureaucratic controls and lowered the barriers to creating new businesses. This gave way to IT industry entry to India and the demand for knowledge workers greatly increased and technology entrepreneurship was an area of emergence in the services sector, which is less capital-intensive than traditional industries. Due to the people asset base in this sector, the parameters to be seen in IT services sector is beyond the physical support system and it involves tangible aspects related to people and their work areas revolving around human psychology and team attributes.

Data from the NASSCOM resource centre paints a clear picture of the emerging startup ecosystem in India (NASSCOM Report, 2014):

- The number of technology startups has tripled in last six years, from about 1000 to 3000 startups, which shows some factors are being encouraging to the Information Technology services sector.
- Two-thirds of entrepreneurs are less than 30 years of age, which shows some demographic data, however this data doesn’t guarantee business success.
- The number of angel investors has grown from 7 to 32 from 2006 to 2012 while the number of venture capitalists has grown from 43 to 48 in the same period, showing that Information Technology services sector has been attracting investors.

As per NASSCOM (2016), IT services market in Indian and Global setting shows the continual growth of the sector and attracts entrepreneurs and investors to be involved in this promising industry. However, how many of these Information Technology services Startups have survived initial years, overcome any business management challenges and have moved
to growth phase and been successful? What went well? What went wrong? What can we learn from their experiences? These unknown factors, if analyzed, can be shared with upcoming Information Technology services entrepreneurs and prevent them from making the same mistake and enhance the success factor of the Information Technology services startup. There is a lack of detailed study in this sector verses the overall startups arena in Indian environment, which is studied in this research work.

**Startup Strategies adopted for business setup and Growth of business**

Madireddy (2010) has conducted a *phenomenological study on Management and Leadership Challenges in achieving success by technology Start-ups* with the sample data based in Silicon valley, CA, USA with the sample of 22 participants. He has captured the success factors in technology startups relevant to Silicon Valley. The findings are organized and presented in the order of categories of the successful start-up phenomenon: (a) project planning and execution strategies factor, (b) project monitoring strategies factor, (c) project reporting strategies factor, (d) hiring strategies factor, (e) product strategies factor, (f) patenting strategies factor, and (g) outsourcing strategies factor. The findings reveal patenting strategies, outsourcing, and product strategies such as concurrent multi-products could achieve success of technology start-ups. The implications to leadership included the emergence of transactional and transformational leadership as the most important success factors to achieve success. The participants in the interview process were limited to one geographical area, Silicon Valley, California. Limiting the current study to include a focus solely on Silicon Valley start-ups helped to identify the causes of failures or successes specific only to the Silicon Valley and excluded the causes of start-up failures or successes in other locations, resulting in limitations to the generalizability of the results to all start-ups in the same sectors located in other regions or to all start-ups in other sectors worldwide.

A *Framework for Developing Manufacturing Strategy in Start-up Companies* by Dr. Sarah Lubik in Croatia in 2016 included

- A conceptual strategy development for data collection and strategy mapping
- Six in-depth case studies in several emerging industries, including: internet security, X-ray imaging, renewable energy and medical devices
- A categorization of the major challenges encountered by start-ups
•In-depth analysis of technology-push and market-pull strategies, mark-or-buy decisions, partnership strategies and market selection for manufacturing start-ups

Varit (2014) has conducted a research study based on case studies on startup factors and Innovation Strategies, Hi-Tech SME in Thailand. This research takes a qualitative approach and descriptive statistics in exploring the relationship between start-up factors, innovation strategies and firm performance of high-tech entrepreneurs in Thailand. Case study of 4 entrepreneurial organizations and in-depth interview with CEOs/founders were conducted to compute findings. The study has found that 3 out of 4 companies use imitation strategy, only 1 company uses first mover strategy. All of them use alliance strategy. All companies have growth rate during past 3 years, the first mover company has the highest growth rate. All entrepreneurs have high readiness of business start-up factor but their businesses grow with different rate. Number of samples is only 4 samples, which is limited to provide the generalization of the entrepreneurial theory. Sample companies are all in Information Technology cluster and may not be the good representatives of high technology clusters.

Krishna (2014) presented a research paper which leverages the principles of effectuation (a logic of entrepreneurial decision making under uncertainty) to explain the journey from creation to survival of high-tech startups in an emerging economy. Based on the 99tests.com case study, this paper suggests that early stage high-tech startups in emerging economies can increase their probability of survival by adopting the principles of effectuation.

**Review of existing study of Success or failure factors in startups**

In India, Yourstory conducted a study on failure reasons of startups in 2014 in India within initial years (0-2 years from forming the venture) by undertaking a research study by collecting data from founders on why the venture was shut down, showed the results as below (Yourstory, 2014):
The research study undertaken was on Information Technology services startups in particular and which were incubated in India. The study conducted looked at two perspectives, Firstly, entrepreneurs/founders and their attributes. Secondly, the startups that they founded/worked with, which failed/succeeded during initial years. This gives us insights into the failure factors of startups (Yourstory, 2014).

Management and Organization Theories and frameworks

Organization Development during Organizational Life Cycle stages

One widely-cited conceptual work, however, was published in the Harvard Business Review in 1972 by L. Greiner. He used five growth phases: growth through creativity; growth through direction; growth through delegation; growth through coordination; and growth through collaboration.
Phase 1—Growth through creativity eventually leads to a crisis of leadership.  
Phase 2—Growth through direction eventually leads to a crisis of autonomy.  
Phase 3—Growth through delegation eventually leads to a crisis of control.  
Phase 4—Growth through coordination eventually leads to a crisis of red tape.  
Phase 5—Growth through collaboration, is characterized by the use of teams, a reduction in corporate staff, matrix-type structures, the simplification of formal systems, an increase in conferences and educational programs, and more sophisticated information systems (Griener, 1998).

This is a crisis-based transition model. There is an implication in this where firms that do not successfully negotiate these crises eventually stagnates and possibly fail (Griener, 1998).

Within each phase, the organizational design is initially suitable for the company size and context. As growth continues, the design becomes unwieldy and the very factors that at first made it suitable now lead to a crisis that triggers the redesign and transition to the next phase. This pattern then repeats the cycle of initial appropriate design followed by increasing tensions as growth causes new problems. (Greiner, 1998)
Innovation in Startups and Matured Organization

Different innovation typologies might be necessary at different stages of a company becoming more mature. This is especially the case for technical innovations but also to an extent for process innovations (Lewrick and Raeside, 2010).

Figure 6: Percentage Engagement in innovation by type and whether or not the company is a Startup or mature (Lewrick and Raeside, 2010)

<table>
<thead>
<tr>
<th>Factors</th>
<th>Start-up</th>
<th>Mature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management capability</td>
<td>-0.094*</td>
<td>0.045</td>
</tr>
<tr>
<td>Knowledge enhancement</td>
<td>-0.188*</td>
<td>0.089</td>
</tr>
<tr>
<td>Competitor orientation</td>
<td>0.102</td>
<td>-0.048</td>
</tr>
<tr>
<td>Inter-organisational network</td>
<td>-0.02</td>
<td>0.01</td>
</tr>
<tr>
<td>Organisational learning</td>
<td>0.028</td>
<td>-0.013</td>
</tr>
<tr>
<td>Knowledge acquisition</td>
<td>0.426***</td>
<td>-0.202</td>
</tr>
<tr>
<td>Market orientation</td>
<td>0.128</td>
<td>-0.061</td>
</tr>
<tr>
<td>Performance measurement</td>
<td>-0.097</td>
<td>0.046</td>
</tr>
<tr>
<td>Informal networks</td>
<td>0.856***</td>
<td>-0.406</td>
</tr>
<tr>
<td>Outcomes</td>
<td>-0.195*</td>
<td>0.092</td>
</tr>
<tr>
<td>Formal networks</td>
<td>-0.284**</td>
<td>0.135</td>
</tr>
<tr>
<td>Key performance indicators</td>
<td>-0.209*</td>
<td>0.099</td>
</tr>
</tbody>
</table>

Notes: *Significant at the 10% level between start-up and mature companies.

**Significant at the 5% level between start-up and mature companies.

***Significant at the 1% level between start-up and mature companies.

Table 1: Mean of factors for Startup and mature companies (Lewrick and Raeside, 2010)
Lewrick and Raeside (2010) brought insights in the two different settings of innovation capabilities, the entrepreneurial innovation model (startup) and the enterpriser model of innovation (matured) are provided in figure 10 below. They concluded that in the domains related to knowledge enhancement and knowledge acquisition, a large change and shift in importance from the entrepreneurial model towards the enterpriser model is experienced.

![Figure 7: Mean of factors for Startup and mature companies (Lewrick and Raeside, 2010)](image)

The product/service portfolio of an organization against the competitor product/service in terms of features, customer value proposition, technology, customer service, and price has to be well analyzed often to position the product/service rightly for high profitability and margins (Lewrick and Raeside, 2010). At the same time, the use of latest available/state of the art upcoming technologies would help in innovating better ways of doing things which can in turn maximize the productivity (Lewrick and Raeside, 2010).

**Performance of the organizations via Resource Based View**

Resource Based View (RBV) of the firm is one of the most popular perspectives in explaining firm performances. RBV argues that sustainable competitive advantage comes from heterogeneous firm resources. Specifically, RBV suggests that strategically valuable resources should be tacit, complex (Schoemaker, 1990), exclusive (Wenerfelt, 1984) and unable to accumulate rapidly (Dierickx and Cool, 1989), or VRIN (Valuable, rare, inimitable,
and non-substitutable) (Barney, 1991; Eisenhardt and Martin, 2000; Wu, 2010), thus preventing competitors from acquiring them easily.

Wang and Wu considered different variables for initial stages and growth stages of Technology startups indicating that same variables don’t yield firm success (Wang and Wu, 2011). They considered entrepreneur resources during initial stages (specialized Know-How, financial capital, managerial capability, and work or startup experience), while during growth stages, firm resources were classified as specialized Know-how, financial capital, operational management capability, reputation and past alliance experience. During growth phase, six measures are used to gauge startup growth competitiveness including speed of innovation, speed of response to market, production efficiency, product quality (Hill and Jones, 2009), manufacturing flexibility and R&D capability (Lee et.al., 2001; Shrader and Simon, 1997). The study by Wang and Wu concluded that entrepreneur resources during the initial stage influence firm resources during the growth stage, and firm competitiveness, and new team members commitments during the growth stage.

**Organization Culture and Startups**

Some organizational cultures may be more appropriate in certain organizational phase than other organizational phase in its life cycle. The key to using culture to improve performance lies in matching culture or attributes to organizational goals (Quinn and Rohrbaugh, 1983).

<table>
<thead>
<tr>
<th>Flexibility</th>
<th>Open System Model (Adhocracy)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human Relations Model (Clan)</td>
<td>Means: Flexibility; readiness</td>
</tr>
<tr>
<td>Means: Cohesion; morale</td>
<td>Ends: Growth; resource acquisition</td>
</tr>
<tr>
<td>Ends: Human resource development</td>
<td></td>
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</tbody>
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<table>
<thead>
<tr>
<th></th>
<th>Rational Goal Model (Market)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal Process Model (Hierarchy)</td>
<td>Means: Planning; goal setting</td>
</tr>
<tr>
<td>Means: Information management; communication</td>
<td>Ends: Productivity; efficiency</td>
</tr>
<tr>
<td>Ends: Stability; control</td>
<td></td>
</tr>
</tbody>
</table>

**Figure 8: Competing Values Framework (CVF) (Quinn and Rohrbaugh, 1983)**
The first value dimension is related to organizational focus, from an internal, micro emphasis on the well-being and development of people in the organization to an external, macro emphasis on the well-being and development of the organization itself. The second value dimension is related to organizational structure, from an emphasis on stability to an emphasis on flexibility (Quinn and Rohrbaugh, 1983).

**Control (Hierarchy)**

Hierarchical organizations share similarities with the stereotypical large, bureaucratic corporation. As in the values matrix, they are defined by stability and control as well as internal focus and integration. They value standardization, control, and a well-defined structure for authority and decision making. Effective leaders in hierarchical cultures are those who can organize, coordinate, and monitor people and processes (Quinn and Rohrbaugh, 1983).

**Compete (Market)**

While most major American companies throughout the 19th and much of the 20th centuries believed a hierarchical organization was most effective, the late 1960s gave rise to another popular approach—Compete (market) organizations (Quinn and Rohrbaugh, 1983). These companies are similar to the Control (hierarchy) in that they value stability and control; however, instead of an inward focus they have an external orientation and they value differentiation over integration. This began largely because of the competitive challenges from overseas that forced American companies to search for a more effective business approach. With their outward focus, Compete (market) organizations are focused on relationships—more specifically, transactions—with suppliers, customers, contractors, unions, legislators, consultants, regulators, etc (Quinn and Rohrbaugh, 1983).

**Collaborate (Clan)**

In the values matrix, Collaborate (clan) are similar to Control (hierarchy) in that there is an inward focus with concern for integration (Quinn and Rohrbaugh, 1983).
However, Collaborate (clan) emphasize flexibility and discretion rather than the stability and control of Control (hierarchy) and Compete (market) organizations (Quinn and Rohrbaugh, 1983).

Create (Adhocracy)

In the values matrix Create (adhocracy) are similar to Collaborate (clan) in that they emphasize flexibility and discretion; however, they do not share the same inward focus. Instead they are like Create (adhocracy) in their external focus and concern for differentiation (Quinn and Rohrbaugh, 1983). With the advent of the Information Age, a new approach developed to deal with the fast-paced and volatile business environment. Social, economic, and technological changes made older corporate attitudes and tactics less efficient. Success now was envisioned in terms of innovation and creativity with a future-forward posture. An entrepreneurial spirit reigns where profit lies in finding new opportunities to develop new products, new services, and new relationships—with little expectation that these endure in future. Adhocratic organizations value flexibility, adaptability, and thrive in what would have earlier been viewed as unmanageable chaos (Quinn and Rohrbaugh, 1983).

Organization Structure and Startups

Types of Organizational Structure in Management

An organization small or large follows some structure / fall into one of the types of organizational structures proposed in management theories, while this may help in some way, have an effective structure which contributes to the organization performance, it would be a positive factor for the success of the organization. Types of organizational structure in management can be flat, functional, product, project, matrix, virtual or geographical-structured organizations. Venkat, Shiva and Shinichi found that different countries used different organization structures in their technology startups, flat organization structure was found in USA, limited hierarchical organization was found in India and very formal hierarchical organization structure was found in Japan.
Leadership Styles and Startup Organization

Being a leader isn’t easy and the leadership styles of the leaders influence the culture of the organization. Having a vision and executing the strategy while keeping the employees motivated becomes extremely important during growth years of the startups. While various leadership styles exist in corporates, using specific style fitting the current scenario of the organization is important to leverage the leadership style to handle the management and growth challenges. The differences, advantages and disadvantages of various leadership styles are shared in management theories. There are many tests available to determine one’s leadership style based on a set of questions and roles that fit these leadership styles. From transformational to transactional leadership styles, various styles influence the results expected from team members. Understanding the team member’s style and alignment with the required leadership style, result in business success and motivated employees to achieve business objectives. Leadership styles that naturally suit entrepreneurship to take a business idea to a commercial set up, then transform the startup to a growing organization needs various styles to be followed during various stages of the organization. Leaders at startups have to be agile, goal driven, yet be the motivators to the startup teams.

Management Styles and Startup organization

Early writers like Henri Fayol, FW Taylor and Max Weber contributed to the introduction of many management terminologies, developed basic management models and theories. Classical management theory emphasized on structure, Prescriptive about 'what is good for the firm' and defines a Practical manager. Human Relations Theories were concerned with human factors like motivation, group motivation and leadership. Socio-Psychologists like Maslow, McGregor (theory X and theory Y), Likert, Argyris developed more complex Neo-Human Relations Theories. Systems theory focuses on complexity and interdependence of relationships. An organization is viewed as a system, which is composed of regularly interacting or interdependent groups of activities/parts that form the emergent whole. Contingency theory argues that there is no 'one best way' to structure an organization. An organization faces a range of choices when determining how it should be structured, how it should be organized, how it should be managed. Successful organizations adopt structures that are an appropriate response to a number of variables, or contingencies, which influence both the needs of the organization and how it works. These theories take a comprehensive view of people in organizations.
Contingency theorists have found that three contingencies are particularly important in influencing an organization’s structure. These are:

- Its size
- The technology it uses
- Its operating environment.

There are two significant implications of contingency theory: If there is no 'one best way', then even apparently quite similar organizations, for example, two nearby colleges, may choose significantly different structures and still survive, be reasonably successful in achieving their missions, and so on if different parts of the same organization are influenced in different ways by the contingencies bearing upon them, then it may be appropriate for them to be structured differently, for example, one university department may have a functional structure, whilst another may have a matrix structure.

According to Kotter (1990), management concerns controlling and planning with the focus being on financial aspects of the project. Leadership, however, is defined as guiding, motivating, inspiring a group of individuals (Kotter, 1990; Engwal & Sjogren, 2003). According to Kotter (2001), leadership and management are completely different roles, but, essentially, not performed by different individuals (Kotter, 2001). Muller and Turner (2007) have studied several companies within different industries located in eight countries. As a result, they concluded that the project manager’s leadership style influences the project’s success and that different leadership styles are appropriate for different types of project. However, the relationship between the leadership style and outcome is still considered as being rather complex (Bass & Riggio, 2006). Zahra (2012) concluded that there is a positive correlation between the transactional leadership style and performance of startups in implementation of Customer Development. Zohra (2012) concluded in her study that in general, the leadership style can influence the performance of mature startups.

**Study of Existing Startup Support Ecosystem**

Accelerators, incubators, Universities, big companies, funding organizations, angel investors, Government regulations, policies, service providers, talent pool, market for IT Services and research organizations form the startup support ecosystem.
**Startup Ecosystem characteristics for success**

In prior research, the characteristics of the first and most successful startup ecosystem of the world, which generated more than 6,000 innovative companies has been explored in book, Secrets of Silicon Valley in the context of startup ecosystems (Piscione 2013). According to Piscione, there is a shared set of attitudes, values, goals, and practices that turn Silicon Valley, USA into a unique place that is difficult to reproduce Piscione (2013).

**Top 20 Startup Ecosystem rankings**

![Top 20 Startup Ecosystem rankings](image)

*Table 2: Top 20 Global Startup Ecosystem Report -2017 (Source: Startup Genome Report, 2017)*

Startup Genome conducts global startup ecosystem surveys across regions as a collaborative effort to nurture and maintain thriving technology startup ecosystems globally. Startup Genome benchmarks startup ecosystems combining objective data analysis with inputs from founders to provide knowledge that empowers local regions to build and attract healthy
startup communities (Startup Genome, 2017). The above table shows the top 20 global startup ecosystem ranking on various parameters showing Silicon Valley, USA as number 1 in many parameters, Bangalore, India ranked as number 20 in being a healthy startup ecosystem.

**Indian Government agencies - CITT, IIFT, NSTEBD**

Centre for International Trade (CITT), Indian Institute of Foreign Trade (IIFT) with the support and funding of Department of Scientific and Industrial Research, Ministry of Science and Technology, Government of India in 2007, studied Support needs of Technology based Startups (NSTEBD Website). This study data was categorized in two types of companies. One category involves established/ existing technologies which have been termed as “Traditional Technologies” in areas like Organic Chemicals, Synthetic dyes, Chlorine based chemicals. Paints, well known fabrication units and pharmaceutical preparations etc. The other category constitutes complex processes and automated control systems, robotics, microwave systems, bullet proof glass, precision machine tools etc. which are categorized as “Technology based” enterprises.

However, the Information Technology services based ventures specifically were not studied and since this knowledge worker specific sample space which has tremendously contributed to Indian IT exports from 1990s, their business challenges through the IT Software exports years needs to understood to support the ventures based on Information Technology services for sustaining the economic contribution of this sector to Indian GDP.

National Science and Technology Entrepreneurship Board (NSTEDB) was setup in 1982 by Government of India with a broad objective of ‘promoting gainful self-employment amongst the Science and Technology (S&T) manpower in the Country and to setup knowledge based and innovation driven enterprises.’ As Entrepreneurship is a subject and charter of various ministries, NSTEDB has a multi-stakeholder representation from various scientific departments and ministries, entrepreneurship development institutions and financial institutions. National Science & Technology Entrepreneurship Development Board (NSTEDB), Department of Science & Technology, Government of India promotes innovation based startups that take on projects of social value and impact. Primarily, the
initiatives have been towards evolving Institutional frameworks that aid and assist the
development of techno-entrepreneurs and ventures. supported institutional framework of
NSTEDB covers ‘Entrepreneurship Development Cells,’ ‘Innovation and Entrepreneurship
Development Cells,’ ‘Science & Technology Entrepreneurship Development Project,’
‘Science & Technology Entrepreneurship Parks (STEPs)’ and ‘Technology Business
Incubators (TBIs).’ The Technology Business Incubation (TBI) program, which is geared
towards supporting entrepreneurship in emerging technology areas such as information and
communications technology, manufacturing, biotechnology, nanotechnology, and agricultural
technology. The NSTEDB identified 120 technology business incubators in different
technology areas within India (NSTEDB, 2009). Of these, 53 were promoted by the
NSTEDB, 40 were software technology parks promoted by the Ministry of Information and
Communication Technology, and the remaining 30 were promoted by other government
departments, banks, financial institutions, or private companies. The numbers are small for
a country as large as India and the geographical distribution is also not uniform: 56% of
incubators are located in southern India, 21% are in northern India, 17% are in
western India, and only 6% are located in eastern regions (NSTEDB, 2014).

IT Schemes and Policies, Government of India

The Department of Electronics and Information Technology (DeitY) coordinates strategic
activities, promoting skill development programs, enhancing infrastructure capabilities and
supporting R&D for India’s leadership position in IT and IT-Enabled services (Ministry of
Electronics and Information Technology, GOI).

Ministry of Electronics and Information Technology, GOI has two export promotion
schemes:

Software Technology Parks (STPs): Software Technology Parks of India, is an
Autonomous Society set up by the Ministry of Electronics and Information Technology
(MeitY), Government of India in 1991, with the objective of encouraging, promoting and
boosting the Software Exports from India. The services rendered by STPI for the Software
exporting community have been statutory services, data communications servers, incubation
facilities, training and value added services (Ministry of Electronics and Information
Technology, GOI). Customs Duty Exemption, Central Excise Duty Exemption, Central Sales Tax Reimbursement, 100% FDI is permitted through automatic route are a few of the benefits for companies registered as STP export units (Ministry of Electronics and Information Technology, GOI).

**Special Economic Zones (SEZ) Scheme:** In 2005, the Department of Commerce, Ministry of Commerce & Industry, and Government of India has enacted the Special Economic Zone (SEZ) Act, with an objective of providing an internationally competitive and hassle free environment for exports. A SEZ is defined as a "specifically demarked duty-free enclave and shall deemed to be foreign territory (out of Customs jurisdiction) for the purpose of trade operations and duties and tariffs" (Ministry of Electronics and Information Technology, GOI).

Salient features of SEZ scheme include Duty free import/domestic procurement of goods for development, operation and maintenance of SEZ units, 100% Income Tax exemption on export income for SEZ units under Section 10AA of the Income Tax Act for first 5 years, 50% for next 5 years thereafter and 50% of the ploughed back export profit for next 5 year, Exemption from Central Sales Tax, Service Tax, Exemption from State sales tax and other levies as extended by the respective State Governments (Ministry of Electronics and Information Technology, GOI).

**Startup India Initiative, Ministry of commerce and Industry, GOI**

Ministry of commerce and Industry, GOI has taken startup India initiative in 2016.

Startup Definition (only for the purpose of Government schemes):

Startup means an entity, incorporated or registered in India:

- Not prior to five years,
- With annual turnover not exceeding 25 crore rupees in any preceding financial year, and
- Working towards innovation, development, deployment or commercialization of new products, processes or services driven by technology or intellectual property (Startup India, GOI, 2016).
Startup registration benefits under this initiative include self-certification for compliance under 9 environmental & labor laws, Startup patent application which is fast track & up to 80% rebate in filling patents, Public procurement which is fast track under the criteria of "prior experience/turnover" for startups in all Central Government ministries/departments, Winding up company in 90 days under insolvency & Bankruptcy code 2016, Rs. 10,000 crore fund for investment into startups through Alternate Investment Funds, Rs. 2,000 crore credit guarantee fund for startups through National Credit Guarantee Trust, Company / SIDBI over 4 years, tax exemptions on Income tax for 3 years and Tax exemptions on capital gains & on Investments above Fair Market Value (Startup India, GOI, 2016).

Startup India Learning Program is a free online Entrepreneurship program by Startup India. The aim is to help entrepreneurs get their ideas and ventures to the next level through structured learning. The program covers lessons on key areas of starting up by 40+ top founders of India in an extensive 4-Week Program (Startup India, GOI, 2016).

SIDBI Startup Mitra - Startup schemes by state governments

State governments in India have launched various policies and schemes specifically to support and promote start up development. State of Rajasthan, Bihar, Odisha, Haryana, Karnataka, Kerala, Telangana, Andhra Pradesh, Gujarat have initiated state startup policies to support startup ecosystems and various incentives are detailed as part of their policies (SIDBI, Startup Mitra, 2016). SIDBI Startup Mitra is developed by the state-owned funding institution as part of its efforts to scale up initiatives targeted at entrepreneurship development. The SIDBI Startup Mitra platform enables entrepreneurs in the start-up community to get connected with various stakeholders, namely incubators, angel investors, venture capital funds.

Karnataka Startup Policy 2015-2020

As per global startup ecosystem ranking report, Bengaluru is the only Indian city to be ranked within the best twenty startup eco systems across the world. The existing policy framework of Government of Karnataka, mainly the i4 (IT, ITES, Innovations and Incentives Policy 2014-2019), ESDM, AVGC policies and the Industries Policy 14-19, recognized the importance of
promoting startups and the need to give the necessary impetus to tech-entrepreneurship early in the day, and has invested on building incubation spaces in partnership with industry bodies (Startup Policy, GOK, 2015).

The Karnataka startup policy has set the goals of stimulating the growth of 20,000 technology based startups, achieve creation of 6 lakh direct and 12 lakh indirect new employment opportunities, mobilize Rs. 2,000 crore funding for investment in startups through government intervention alone and facilitate generation of at least 25 Innovative Technology solutions with a social impact in sectors like Health care, Food Security, Clean environment and Education for all etc. (Startup Policy, GOK, 2015). New Age Incubation Network (NAIN) scheme currently under implementation in engineering colleges is expanded to all professional and post-graduate institutions in two-tier cities in a phased manner. At least 50 academic institutions shall be covered under this program during the Policy Period (Startup Policy, GOK, 2015).

The State Government would assist in the setting up of Technology business incubators (TBIs) in institutions of higher learning with well-developed Research and development facilities to foster a strong link between R&D and commercialization of technologies so developed (Startup Policy, GOK, 2015). The selected thrust areas for technology business incubator includes Information & Communication Technology (ICT), Internet of Things (IOT), Software Products (Startup Policy, GOK, 2015).

Providing early stage/Idea2PoC (Proof of Concept) funding is in the form of Grant-in-aid limited to a one time grant of up to Rs. 50 lakhs to be released in tranches based on the life cycle of the business plan to provide early stage funding to stimulate commercialization of research discoveries and to help in validating proof of concept and subsequently to assist them to cover costs like certification, manufacturing pilot devices etc (Startup Policy, GOK, 2015).

The State would invite the private sector including globally and nationally well-known accelerators and incubators to set up world class incubation centers and accelerators or expand existing facility /operations on PPP basis (Startup Policy, GOK, 2015). The Incubators/accelerators shall administer Full facilitation for establishment of an entity, Subsidized seats up to Rs. 3000 per seat per month limited to 5 seats per incubatee for a
maximum duration of a year depending on market discovered rates, Virtual incubation of incubates where incubatees are not physically plugged into the facility through mentorship, funding etc (Startup Policy, GOK, 2015).

Karnataka state has set up Startup Cells in KBITS to act as a one stop shop that enables easy flow of information and assistance to needy startups. The cell shall also act as a single connect with Government departments where the Startup needs to implement pilots of their projects (Startup Policy, GOK, 2015). The startup cell must network with Industry bodies, TBIs, academic institutions, other incubators etc and thus, provide a common interface where the symbiotic components of the startup ecosystem could interact more closely and effectively (Startup Policy, GOK, 2015).

Startups are permitted to file self-certifications, in the prescribed formats under various Karnataka state acts and rules framed there under barring inspections arising out of specific complaints (Startup Policy, GOK, 2015). Reimbursement of Service Tax, VAT, CST paid by startups, Financial Assistance as Matching Grants, Marketing Incentives, and Patent Filing Cost are provided (Startup Policy, GOK, 2015). All Government supported startups shall be mandated to allocate minimum 10% seats for startups with women co-founders on preferential basis (Startup Policy, GOK, 2015).

The gaps identified

- Study of internal strategies adopted to initiate, sustain and grow IT Service Startups in India is missing
- Lack of Study on environmental or external support system for IT Services Startups in India
- Lack of available framework for success of Information Technology services startups
- Adaptation of various Leadership styles applied during the organizational lifecycle stages for business success.
- Study of Organization structure and work environment aspects relevant to startups and Information Technology services in particular is not conducted
- Gender specific studies in IT Services startup is not conducted.
- Lack of study on team dynamics across the founding team of Information Technology services Startups
• Study of impact of government IT promotion schemes on Information Technology services startups in India
• Lack of Comparative study of Government policies of India and other countries for IT Services industry
• Comparative study of various state policies across Indian states for IT Services industry is missing

Literature review showed gaps in many research areas related to Information Technology services startups in general and India in particular. As per prior research, many attributes pertaining to business challenges faced by startups during initial phase (0-2 years) of the business initiation are studied especially investment / funding needs, entrepreneurial attributes leading to startup formation, market needs driving entrepreneurship, government / tax policies and growth of startup ecosystem in a given country are studied. However, the attributes affecting initial phase along with attributes affecting growth phase of Information Technology services startup in India are not studied in depth. In the current research, some of the constructs are defined to find those differences / similarities during initial verses growth phase of Information Technology services startup in India.

Constructs of the Study

Construct 1: Information Technology Services Startup team’s dynamics

Construct 1 is defined to look at independent variables pertaining to founding team dynamics in Information Technology services startups and its correlation with success of IT Services startups in India.

<table>
<thead>
<tr>
<th>Construct 1:</th>
<th>Research Question 1:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Startup team’s dynamics</td>
<td>What are the founding team dynamics which contribute to success of IT Services startups in India?</td>
</tr>
<tr>
<td>Prior Background attributes of entrepreneur/senior management team</td>
<td></td>
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</tbody>
</table>

- Construct 1: Startup team’s dynamics
- Prior Background attributes of entrepreneur/senior management team
- Research Question 1: What are the founding team dynamics which contribute to success of IT Services startups in India?
**Construct 2: Leadership Styles at startups**

Construct 2 is identified and defined to find attributes of various leadership styles in Information Technology services startups in India and their correlation with the business success as experienced by participants in the study.

<table>
<thead>
<tr>
<th>Construct 2:</th>
<th>Research Question 2:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Founder/Promoter/Executive Management’s Leadership Style within the technology Startups</td>
<td>What are the leadership styles of Entrepreneurs which contribute to success of IT Services Startups?</td>
</tr>
</tbody>
</table>

**Construct 3: Role of Business plan, Intellectual Property in startups**

Construct 3 is defined to find the importance of having business plan in Information Technology services startups and importance of developing and patenting intellectual property in Information Technology services startups in India. Construct 3 takes a deep dive in probing the impact of having a strategic business plan for startup setup, sustenance and growth roadmap of the business and the need to stay on course or change the path of planned strategic direction during the journey. The construct also explores the kind of service/solution innovations that are identified, planned, built and patented in Information Technology services companies. Reviewing those innovative intellectual property that the company has developed and patenting those solution innovations is probed to find answers to research question 3 in the current study.

<table>
<thead>
<tr>
<th>Construct 3:</th>
<th>Research Question 3:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Plan / Intellectual Property / Patenting Strategies</td>
<td>What is the role of Business plan and Intellectual property on success of IT Services startups in India?</td>
</tr>
</tbody>
</table>
Construct 4: External Startup Support System and Startup Strategies

Construct 4 is identified to find correlation between some of the dimensions identified earlier or found during data collection as external Startup Support System and business success of Information Technology services startups in India.

Research Question 3:
What are the environmental factors – that contribute to success of startups like market, government support and talent availability?

Construct 5: (Sub Constructs – 1,2,3,4,5): Internal Strategies at Startups

Construct 5 is identified as finding various dimensions in internal strategies adopted by Information Technology services startups in India and individually identify variables in the sub constructs that are categorized under internal strategies and study their correlation with business success of technology startups in India. The dimensions that are probed in construct 5 are those of McKinsey 7S framework - all seven factors - strategy, structure, systems, style, staff, superordinate goals and skills –which are managed with equal effectiveness.
**Theoretical and Conceptual framework**

The various possible groups of factors are listed for an Information Technology services startup ecosystem. After the review of literature from prior studies, the attributes which are not already studied and proven relationships with attributes and success of the technology startups in India are assessed and identified to be focused in current research study.
Summary of Literature Review

This chapter reviewed the prior literature on Information Technology services Startups and management theories revolving around entrepreneurship and business management. The first task of the review of prior research concentrated on prior study on startups, technology startups in particular, then narrowing the area into Indian startup ecosystem and then reviewing software startups leading to Information Technology services startup arena in India. Second task was to move to study critical success factors pertaining to technology startups, Review of relevant organization and management theories, understanding various country level (India) and state level startup initiatives, identification of conceptual and theoretical framework in technology services startups on success criteria. The appropriate constructs based on research objectives were evolved to investigate the attributes. This resulted in the discussion on the specific research constructs of the study i.e. prior background attributes of entrepreneur/senior management team, founder/promoter/executive management's leadership/managerial style within the technology services startups, Business
plan/roadmaps / Intellectual Property / Patenting Strategies, External Startup Support System and internal and growth strategies undertaken to sustain and grow the technology startup business. Thereafter, this chapter proceeded to build the theoretical framework of this study. In this regard, the review of relevant theories, qualitative studies including exploratory, phenomenological and case studies led to building research constructs for the current study. Accordingly, 5 research constructs were determined with some sub constructs identified to be explored during the current research study as result of this review of literature. As a result, the theoretical framework was developed in a broad level in order have a structured focus of the research study.