Overcoming Managerial Challenges to Realize Growth Spurts: Insights from Cases of Three Enterprises

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Abstract

Organizations face several managerial challenges during their growth period. Growth spurts are realized when organizations overcome these challenges. Though the literature is full of studies on the enterprise growth, the knowledge about how these challenges facilitate or hinder growth is limited. We conceptualize and explain five challenges faced by an enterprise along its growth trajectory. For evidence, we then look at history of three organizations from different sectors and trace their strategies to overcome the challenges faced by them. The firm and the environment interact and make certain strategic choices, which in turn results in growth spurts in the organization. We draw insights from their growth stories and discuss the different strategies and interactions between the firm and the environment.

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1. Introduction

Abundant opportunities in a global economy, especially in emerging markets demand corporate focus on strategies and processes required for venture growth. Moreover, because of high environmental turbulence, large size of potential opportunities, and the challenges involved in the process, venture growth may happen in spurts. While the topic of organizational growth has attracted considerable attention (Bhide 1999; Kirchoff, 1994), the phenomenon of growth spurts deserves greater focus in view of the changing nature of the opportunities. Empirical studies with focus on entrepreneurial growth have adopted an approach which examines this issue from the lens of cause and effect generalization, critical narrative accounts of organizational life cycle (Kazanjian and Drazin, 1989), or operationalization of growth (Weinzimmer, Nystrom and Freeman, 1998). While these studies have enhanced our understanding of the entrepreneurial process, the knowledge about what facilitates and hinders growth is still scattered and limited. The studies have not been able to build a generalizable pool of knowledge which could provide insights about the growth spurts experienced by entrepreneurial firms operating in potentially opportunity rich environment.

Entrepreneurial decisions are creative decisions and the means to achieve ends are constructed by the entrepreneur or the firm (Eckhardt and Shane, 2003). Growth spurts are realized when organizations overcome key managerial challenges. An understanding of this process can enrich our understanding of growth catapults experienced by certain organizations. This primary focus of this paper is to identify key generic challenges faced

by entrepreneurial ventures and to provide empirical evidence on the process of overcoming those challenges. The approach is to capture instances as and when the firm faced these challenges. However, each time the firm could successfully negotiated these challenges; it resulted in a spurt in its growth.

The rest of the paper is organized as follows. We first outline five key managerial challenges faced by an entrepreneurial venture. We then list out the evidence[4] from the three ventures – Infosys, a player in the global software sector; AES, a player in the global energy sector; and Air Deccan, a pioneer of low-fare model in Indian civil aviation sector. We then discuss the strategies adopted by these three firms in overcoming the challenges.

2. Managerial Challenges of an Entrepreneurial venture[5]

A startup finds itself in a delicate situation. Its aspirations are higher but its resource base is narrower. As it is not known and visible, it does not get an all-round support from the external environment. The support, if any is from select quarters. It has to evolve a strategy that would garner support from the environment and enable it to leverage its resource base to realize its aspirations. It should also be able to contend with developments in both internal as well as external environment triggered by its early forays. To metamorphose, it has to continuously generate positive feedback cycles within the environment and between the environment and itself. The key managerial challenges faced by it can be presented as follows.

[4] The data for these firms has been collected from secondary sources like academic cases, press articles, annual reports, SEC filings and their internet websites. We are also associated in primary data collection with Infosys. (Infosys cases used - Singh & Trivedi, 1999; Nanda & Delong, 2001; Singh & Trivedi, 2002; Garud, Kumaraswamy & Malhotra, 2003; Bhatnagar & Dixit, 2004; Saperstein, Murty & Desai, 2005; Abdelal, DiTella & Kothandaraman, 2007; AES cases & articles used – Grant, 1997; Wetlaufer, 1999; Dosunmu, 2001; Thompson, 2003; Air Deccan – IPO Prospectus 2006, Kingfisher's Open Offer 2007 – both available on www.sebi.gov.in. Evidence for Air Deccan also appears in our earlier paper WP no. 2007-11-03 (Dixit, Sharma & Karna, 2007))

[5] This section is borrowed from our earlier paper WP no. 2007-11-03 (Dixit, Sharma & Karna, 2007)

2.1. Competence Congregation and Cultivation

The startup does not possess all the resources and capabilities needed. It experiences a gap between the competences it has and the competencies required for formulating and implementing its strategy. Bridging this gap with little or no loss of time is the challenge. This translates further into congregating competent people and technology, and facilitating learning within the resource constraints of the enterprise. An unknown entity with larger than life aspirations needs to attract people who subscribe to the aspirations and respect the resource constraints while defining the terms and conditions of their engagement (Zahra, Nielsen and Bogner, 1999). It may so happen that the enterprise fails to attract the desired competencies. How does it then improvise or work around is the issue. There could be a mismatch of the other kind as well. It could attract competencies and resources in excess of its requirement. How to communicate the aspirations of the enterprise and tone down would be the question. Along with congregation, it is required to cultivate its distinctive competence (Selznick, 1957) to defend itself against competitive forces and sustain itself. It is this distinctive competence that enables it to access new opportunities and grow.

2.2. Educating

A start up normally begins with an innovation in service or product or process. The innovation creates a competence gap in the environment and constrains the environment from absorbing the innovation appropriately. The aspirations of the enterprise will not be realized if the needed competences are not developed in the environment. How does the enterprise use its limited resources to ‘educate the environment’ is the issue. The other question is, “Will the corporation have access to free resources that educate the environment and enable the enterprise to realize its aspirations”. The speed of learning by

the environment, the opportunities created by it or the threats posed for the enterprise decides the future of the start up.

2.3. Monetary

Every transaction of the startup demands money. Where will the supply come from? Will it happen in the way the demand unfolds? The supply has to come from either the money market – debt and equity – or from operations. The money market source is decided by the comparative evaluation of the enterprise vis-à-vis other enterprises that also tap the money market. The cash from operations is dependent on both revenue and expense management. Revenue is dependent on managing both price and volume of operations. Expense management that decides the burn rate is dependent on the efficiency in handling the various processes (Holtz-Eakin, Joulfaian & Rosen, 1994). How does a startup learn about this and respond? Failure to learn and respond would cause a fund crisis and threaten the sustenance of the startup.

2.4. Innovating

Innovation releases the constraints on the startup and enhances the speed, scope and scale of realization of its aspirations. It fills any gap between the resources of the enterprise and its aspirations, and that between what the environment can readily provide and what is needed by the enterprise; create opportunities for further innovation within and outside the enterprise (Cohen and Levinthal, 1990). The startup's response to create opportunities is dependent on how it recognizes the opportunities and allocates its limited resources to develop processes and outcome for further innovation. Innovations could lead to one or a combination of the following depending upon the nature of the innovation:

- Elimination: The startup may eliminate certain activities in its value chain engage in

fewer activities than competition and minimize the demand for resources without diluting the achievement of its aspirations.

- Combination: It may combine several activities to be able to afford a high priced resource or spread the cost of high priced resources.
- Substitution: It may substitute a high cost activity by a low cost activity to achieve its aspirations. It may also substitute an existing material or need by another. Substitution opens up a new category or opportunities.
- Exploitation: The Startup may adopt processes and mechanisms to exploit the imperfections in the market (by way of excess supply or inadequately equipped supply) in order to hire resources at a lower price or better terms.
- Augmentation: It may augment its existing activities that generate additional revenue and enable the startup to recover its fixed costs on existing infrastructure and resources.
- Subsidization: It may obtain access to free resources in the environment to subsidize its other activities.

2.5. Balancing

Each of the above challenges demands resources- time, knowledge, money and goodwill- from the entrepreneur and the enterprise. The enterprise has to allocate its resources across these challenges judiciously to create a synergy and not competition across its initiatives and responses from the environment to ensure success in realizing the aspirations and sustaining the initiatives and their results. An imbalance signals the directions towards failure. The challenge is in achieving not a one time balance but repeating it over a longer time horizon.

3. Meeting the challenges – Evidence from three Cases[6]

Infosys

Infosys was setup in 1981 at Pune – a city in Western India – by a group of seven entrepreneurs. Their early adoption of the global delivery model – to deliver solutions from offshore centers – is considered as an important contribution to the software development field. While growing in size and spread, they remained innovative and followed their business philosophy of fairness, transparency and honesty throughout their journey. Infosys faced its challenges from various facets of environment and was able to successfully overcome the obstacles to emerge as a leading player in the global software sector.

Applied Energy Systems (AES)

AES was formed in 1981 by two ex-government officials. Consistent with their goal of creating a *different* company, AES adopted several unique practices, which have contributed positively towards development of capabilities over time. In fact several of these so called 'lucky events' were facilitated by its unique ecosystem built on pillars of co-sharing, value systems, and empowerment. AES growth is based on not only its strength in tapping opportunities in the environment but also on its skills in financing and efficient operations of plants. In fact for AES to rise to a position of global prominence, it was important to overcome several managerial challenges and co-evolve and co-align with its environment.

[6] Evidence for Air Deccan has been borrowed from our earlier paper WP no. 2007-11-03 (Dixit, Sharma & Karna, 2007)

Air Deccan

Air Deccan was launched with an aspiration to be the 'Udupi Hotel[7] of the Airlines Industry' and 'empower every Indian to fly'. In a short span of four years, the enterprise scaled new heights in growth and facilitated the air travel of first time fliers. It won recognition as the most innovative enterprise of the year. In its fourth year, severe fund requirement against mounting losses threatened the sustenance of the start up. It looked for support from various sources. The support did not come by in time. Support came from the promoter of another airline. Initially the entrepreneur did not want to have links with this investor on the ground that their business models and aspirations were different. On coming on board, the new strategic investor introduced changes in the strategy of the enterprise that altered significantly the original design of the organization. The airline got re-launched as a semi luxury airline with changes that signal the dilution of the early aspirations and non sustenance of the original strategy of the enterprise.

Let us look at the managerial challenges faced by these corporations during their journey and strategies adopted by them to overcome these challenges.

3.1.a. Competence Congregation and Cultivation Challenges – Infosys

In the initial years, Infosys did not possess any of the resources and capabilities needed to run the software firm – except for the experience of the founding members. They were a group of seven entrepreneurs with experience in project management at another software firm. Though they were aware of the process of software development, none of them possessed the resources to run a software firm. At the outset, they faced difficulty in obtaining the bare-minimum requirement for a software firm – a computer. They

[7] Udupi Hotels are restaurants that serve south Indian fast food at highly affordable prices across various places in the country. Since most of them are owned by entrepreneurs from a Udupi region, they are referred to as Udupi Hotels

leveraged on their technological and communication capabilities and sourced a computer with great difficulty, but did not possess the real estate to keep the computer. For that, they explored the environment and found a complementing need of MICO Industries, a Bangalore based manufacturer that required computer for running its applications but could not source it for itself. Infosys entered into an innovative time-sharing agreement with MICO, thus reducing their investments and giving Infosys the much desired access to shared assets. In 1982, they shifted their base from Pune to Bangalore, in order to utilize the space provided to them by MICO. This arrangement with MICO saved Infosys an initial investment needed for setting up its own real estate infrastructure.

In 1982, Infosys entered into an agreement with Databasics Corporation (DBC), who would provide them business in US. For first five years, DBC was their only client and Infosys became the implementer for DBC products at various client-sites in US. This helped them to focus their resources towards building the enterprise in terms of people and processes, while their business development was being catered to by DBC. In 1986, Infosys parted ways with DBC and chose to go directly to the software user firms. This was a significant development as it exposed Infosys to an unknown US environment more than ever before. Having gone alone into the market for business development, it was difficult for Infosys to setup independent operations in USA. Hence they joined hands with management consulting firm Kurt Salmon Associates (KSA). Infosys/KSA setup their first US office in 1987, which acted like a marketing face of Infosys in US. Infosys' contract with DBC was aimed at serving the existing clients of DBC, while the short-lived alliance with KSA was an attempt to establish itself in US market. In the first 7 years of their existence, Infosys did not possess the required resources to develop their overseas business, so they chose to leverage DBC and KSA's expertise and resources in the client markets.

In the first six years of operations, Infosys started off with congregating capabilities that it did not possess. Once Infosys began interacting directly with the clients, they setup their own centers overseas, started sending their employees directly to client sites, and operated offshore development centers in India. For this, Infosys has cultivated several capabilities by investing in infrastructure building, recruiting right talent, managing projects, and laying down processes for ensuring quality of software. In both the phases, it has sustained the competitive forces by selecting the right way of developing competencies – in the initial years when the resources were scarce and objective was to survive, it chose congregation, which is evident from the alliances in the early years of founding. In the later years when the need was to achieve economies of scale and scope, it started cultivating its capabilities within. This is evident in the way they have built up their infrastructure within and outside India. Tables 1a & 1b highlight the different development centers setup by Infosys at different locations.

Table-1: Software Development Centers (DCs) of Infosys in India

Location	**Year of Commencement**
Bangalore	1995
Mangalore	1996
Pune, Bhubaneswar, Chennai	1997
Bangalore	1999
Bangalore, Pune, Mysore, Hyderabad, Mohali	2000
Chennai, Bhubaneshwar, Mangalore	2001
Thiruvananthapuram, Kerala	2004

Source: Infosys Annual Report 2007

Table-2: Globalization Initiatives of Infosys

Location	Year of Commencement
First International Office (with KSA)	1986
Office in Europe (Milton Keyes, UK)	1996
Office in Canada (Toronto)	1997
Offices in Germany, Sweden, Belgium, Australia; 2 DCs in US	1999
Offices in France, Hong Kong; Global DC in Canada, UK; 3 DCs in US	2000
Offices in UAE, Argentina; DC in Japan	2001
Offices: Netherlands, Singapore, Switzerland and	2002
Subsidiaries Infosys China and Infosys Australia	2003

Source: www.infosys.com

3.1.b. Competence Congregation and Cultivation Challenges – AES

AES's growth reveals a very distinct pattern of congregation and cultivation. It entered into the business of electricity generation by independent producers at a time when it was emerging as an alternative to the existing model of generating electricity by the government run monopolies. With just eight employees in 1982, initially it focused on energy conservation consulting and developing cogeneration projects at manufacturing plants where steam was an integral part of the industrial process. The first opportunity for AES involved using waste coke coming out of refinery twice to produce electricity and industrial steam. This technique known as "cogeneration" was quite efficient. The key differentiating factor between the old and new power generation process was efficiency and not any new technology. AES was one of the early entrants and quickly learnt to produce the power efficiently. AES differentiated itself from the others by cultivating capabilities required for running plants efficiently and acquired recognition for its high plant efficiency. Its plants had the highest efficiency. The alternative process gained widespread acceptance leading to explosive growth in opportunities and increase in scale.

However, while opportunities were abundant, they were available only through bidding. Each business opportunity was independent from the earlier ones and thus required independent analysis. It required local knowledge and experience in bidding process. Also since investments were huge, there were issues of managing risks. AES mastered these twin challenges by congregating internal knowledge. It cultivated capability for organizational decision making. AES's unique ecosystem of empowerment and collaboration acted as a platform to congregate knowledge embedded in its employees about the bidding process. This was supported by its strong value systems. Every time the company faced some dilemma, the value system was used as internal pillars to decide. The decision making was guided by the value system which laid emphasis on being a responsible power producer. AES was able to win bid after bid in several countries rapidly increasing its scope of operations. The cultivation of this strong value system was achieved through constant reinforcement over the years. Through constant learning it cultivated capabilities in financing, construction and, operation of power plants.

3.1.c. Competence Congregation and Cultivation Challenges – Air Deccan

When Captain Gopinath launched his maiden venture – Deccan Aviation, he needed to put together a team of security staff, engineers, pilots, cabin crew, call centre staff and others to get off the ground. He benefited from the existence of competencies in the country and abroad. To access these competencies in affordable terms he relied on his contacts and the services of executive search agencies. He recruited both experienced personnel and freshers. The experienced technical and administrative staff was from defence services, airlines in India and abroad, and Indian corporate sector. The pilots were recruited from the defence forces and abroad. They were offered salaries as per industry standards. In selecting the cabin crew the management looked for modest family

back ground with no inhibitions in engaging in aircraft cleaning activities. He congregated his competencies by recruiting various people from different airlines spread across the globe. This helped him in streamlining the processes in the initial two years. A major breakthrough was in September 2005 when Brady from Ryan Air was persuaded to join Air Deccan as Chief Operating Officer. The employee strength was 381 in 2004, which increased to 2600 in June 2006. The major increase between 2004 and 2006 was in the strengths of pilots (32 to 385), cabin crew (31 to 427), security staff (8 to 400) and engineers (34 to 470)[8]. This shows how quickly Air Deccan grew into a large organization within a short span of time – mostly through congregation of competencies in form of experts from airline industry.

Captain Gopinath could not sustain the entire base of competencies assembled by him. Senior executives left the company when they found better options. This was evident as Air Deccan could not cultivate its own competencies based on the congregated resources and hence, failed to retain many of its key employees over the next 2 years. The expansion and financing plans of Air Deccan demanded competencies different from those needed to launch the airline. They needed co-ordination, negotiation, and financial deal designing and implementation competencies. They relied on the domestic and international industry experience to congregate these competencies. This stretched the management bandwidth of the promoters.

[8] IPO Prospectus

3.2. Educating Challenges

3.2.a. Educating Challenges – Infosys

After the DBC fallout, Infosys was dealing directly with its clients. For this, it educated its employees by exposing them to software project management skills and telecommunication technologies so as to enable them to develop complete software projects remotely. During this time, Infosys started hiring more people for its software development activities. When fresh graduates from engineering colleges were recruited in early 1980s, they needed to be trained on technical skills also. Before 1987, Infosys selected fresh graduates, trained them on software development skills and put them onto the overseas projects. During this time, Infosys with the help of its founders canvassed for more computer science graduates from colleges. As a result, by late 1980s all the educational institutes had incorporated software and computer applications as one of the prominent streams of studies. After 1987, Infosys started recruiting skilled manpower and provided them with project management skills before assigning them to projects. However, over the years, there have been many software firms in India eyeing for computer science graduates, thus leading to a shortfall of graduates with programming skills. As a response to this, Infosys developed their own training institutes in Mysore and Bangalore, where they introduced short 4 to 6 months induction programs for educating the graduates without computer programming skills. The selection process at Infosys is based on aptitude and they impart the necessary software and project management skills at their training institutes.

Over the years Infosys has constantly upgraded its training to employees in response to the environment's actions. When the educational institutes did not supply skilled manpower, it trained the employees and canvassed for supplying computer science

graduates. Once the competition utilized the increased supply of skilled manpower, Infosys upgraded itself to train graduates from other fields. In the process, the environment – competition and educational institutes – have gained from efforts of Infosys towards maintaining the skill level of its employees.

3.2.b. Educating Challenges – AES

In case of AES, deregulation provided both the founding rationale as well as sustained opportunities for its continued growth. Apparently, each business opportunity arising out of deregulation was unique and had its own idiosyncrasies. Power generation was under the control of state/national governments. While they were receptive to the idea of private power producers, the issue of credibility and trust were important to them. AES environment was extremely diverse, skeptical, and tentative.

AES started with a very different paradigm of running business. Its stated objectives of values before profits and extreme empowerment were not slogans but rather smart innovations designed to manage the business environment which was uncertain and risky. Empowerment was essential to manage uncertainty and value systems acted as a management control system for the organization. Initially the environment was tentative about the applicability or acceptability of this model to the extent that at the time of AES going public, U.S. Securities and Exchange Commission insisted to include AES stance on values under the categories of 'risks to the organization'. In subsequent years, however, the company was able to further propagate its philosophical stance through empowerment. Empowerment became the mechanism or vehicle for co-sharing. It started several new initiatives like planting trees in Guatemala to offset the carbon dioxide emissions, giving top priority to safety at each AES plant, and including names of all its employees in the annual report. The image of a reliable and responsible organization

eased entry barriers and ensured financial participation by the respective government or their agencies leading to rapid increase in scale and scope of its operations.

3.2.c. Educating Challenges – Air Deccan

Air Deccan had entered the Indian skies with an aspiration of empowering the common man to fly. It was the first in the low-price segment and hence had to educate the first-time fliers. Its launch was characterized by free tickets and attractive prices on all sectors. Due to this, they faced a flood of first-time fliers who needed to be educated on the process of baggage screening, check-in, security-check, boarding and in-flight security precautions. On the other hand, Air Deccan had a fresh crew of employees on ground as well as cabin. They were to be educated on how to ensure fast turn around of flights and provide services to the first time fliers across different flights.

Air Deccan also faced a challenge to operate at the unconnected airports. It outsourced the work of ground crew to contractors and paid them on per flight basis. The airport staff at these unconnected airports were also educated in order to ensure smooth operations and faster turnaround of flights. Once Air Deccan got experience in connecting the unconnected airports, it ventured on the trunk-routes by seeking to connect the larger airports. This brought up a challenge of handling large passenger crowds and the ground staff and cabin crew had to be again educated to handle this kind of an inflow.

3.3. Monetary Challenges

3.3.a. Monetary Challenges – Infosys

The initial investment from the entrepreneurs was as little as Rs. 10,000 (~US$ 1,000) majority of which was provided by Sudha Murthy, a software developer and wife of the Narayana Murthy. However, when Infosys wanted to expand its offshore software

development base, they tapped the primary markets and got a good support from the small investors. In the initial years, they faced problems while raising money from financial institutions, because they had no asset-base that could be kept as collateral. However, it was soon able to garner some financial support from Karnataka State Financial Corporation (KSFC), Karnataka State Small Industrial Development Corporation (KSSIDC), and a loan from Saraswat Bank. KSFC and KSSIDC had a scheme to encourage first generation techno entrepreneurs wherein it provided funds based on the professional qualification of entrepreneur and the merit of their project. They sanctioned a loan of Rs. 2.4 million (~ US$ 0.24 million) for Infosys in 1983[9].

Infosys raised its first major finances through an Initial Public Offering (IPO) in 1993. This was possible because of a major environmental force in form of deregulation and liberalization of Indian economy in 1991. As a part of the economic reforms, capital market reforms were introduced in 1992, as per which the controller of capital issues was abolished and the firms were made free to price their public issues at a rate they perceived fair for the market (Shirai, 2004). Infosys raised Rs. 130 million (~US$ 4 million) in gross aggregate proceeds through the 1993 IPO and Rs. 250 million (~US$ 8 million) in gross aggregate proceeds through a private placement of shares in October 1994 (Giriprakash, 2001). The money raised was invested in buying 5 acres of land in outskirts of Bangalore and started building a state-of-the-art development center. In 1999, in order to partially fund the expansion of its existing Indian facilities and telecommunication infrastructure in Bangalore, Bhubaneswar, Madras, Mangalore and Pune and to develop new facilities, the company Infosys raised approximately US$ 70.38 million in gross aggregate proceeds through its initial US public offering of American depositary shares (Giriprakash, 2001).

[9] Press Release, April 2004 http://www.infosys.com/newsroom/press-releases/2004/global-delivery-model-evaluation.asp

Infosys was able to tap the capital markets for raising necessary funds as and when required. Moreover, being in software development business did not require huge asset base and their cash inflows were not only enough to sustain operations on a day-to-day basis, but also helped them accrue reserves. Due to this nature of their business, they remain a debt-free company and the benefits are accrued in form of savings on interest incomes. This provided a shelter in the times of downturn and also converts into a higher payout for the stakeholders.

3.3.b. Monetary challenges – AES

Sant and Bakke had a very tough time raising money at first, because no body took them very seriously. However, because of their involvement in drafting an act which made it possible for the utilities to purchase power from the private producers, they were quite sure and upbeat about the opportunity. Not withstanding that, no body took them seriously. They faced problem in arranging for finances but somehow they raised US$1.2 million as equity capital and started scouting for deep pocketed partners. From 1981 to 1985, they sought alliances from Arco, IBM, and Bechtel. However, with the successful implementation of their first project, arranging for finances was easier. In 1985, they decided to go alone and built their first power plant in Houston. Although they suffered loss in their first plant, subsequent plants were profitable and by 1989 they had reached viability of their model.

AES went public in 1991 and made its first international foray by acquiring two plants in Ireland. This facilitated AES internationalization attempts and by 1993, the company had presence in 17 countries. Through off balance sheet financing system, they could reduce their financial risk.

However, still AES was exposed to high country risks. It did face a grave financial crisis in 2001 when it suffered three major shocks. The first was Californian power crisis. Though the direct impact of this crisis on AES was supposed to be meager, it had the potential of threatening reforms in the US electricity sector and consequently business opportunities for its continued growth. Second, Enron, another leading energy company suddenly collapsed at the end of December 2001. Although, AES exposure amounted to mere US$ 15 million, the sudden demise of an energy giant shook investor's risk perception. It also brought into question the legitimacy of certain practices widely prevalent in the industry such as off-balance sheet financing. The third shock in Argentina had the greatest direct impact on AES. The company had large investments of over US$1 billion in the country. The meltdown of Argentine economy rendered AES's investment literally worthless. The combined effect of these three shocks coupled with growing uncertainties in other parts of world in the aftermath of 9/11 terrorist attacks left the company lot vulnerable to financial, political and physical risks. In eighteen months, it lost around 90% of its stock value bringing the share price down from US$70 in September 2000 to US$4 in February 2002. AES faced the enormous task of shoring up its finances and to protect itself against an increasingly hostile environment. It responded by cutting down on capital expenditure, selling assets, and withdrawal from some of its most risky areas of business.

3.3.c. Monetary Challenges – Air Deccan

Since its inception Air Deccan had been consistently in need of funds to finance acquisition of planes and manage operations. The initial funding came from the savings of the promoters and their family members. The company cast its net wide to augment this base. The credibility of the promoters, the early success with the helicopter chartering

business and the appeal of the 'business concept' enabled it to access well established venture financing institutions and consulting companies to build a mix of debt and equity. In December 2004 the company sold 24% shareholding to ICICI ventures Funds and Capital International, a US based asset Management Company. Jointly they committed US$ 40 million (Rs.1.6 billion)[10]. Indian regulations on foreign direct investment that permitted up to 49% investment in local airlines by non airline investors enabled the enterprise to access international funds. In 2005 the company needed funds to build an engineering centre, have hangars at the airports and create a maintenance centre. It was felt that absence of an infrastructure could be a bottleneck in sustaining the success of the enterprise. The company floated an Initial Public offer (IPO) to raise money for this. It offered 24.5 million shares of Rs. 10 face value and planned to raise Rs. 3.6 billion. The company had hoped to sell at Rs. 175 per share. Nearly 44% of the proceeds were to be utilized for repaying the debt. Approximately 74% of the total debt repayments would be for the loans taken for pre delivery payment of the aircrafts and the rest for the loans taken to acquire helicopter and bridge the working capital gap. At the time of going public, the sales turnover of the enterprise had increased from 234.1 in 2003 to Rs. 629.4 million in 2004 and further to Rs. 3.06 billion in 2005 and Rs. 4.8 billion in eight months ending November 2005. However, the company had incurred an operating loss of Rs. 181 million in 2005 and Rs. 1.2billion in eight months ending November 2005.[11] Some advisory services had recommended 'don't buy' for the issue. In view of this, the market response to the IPO was not as expected. The enterprise had to cut the expected price of the share and extend the subscription period for its IPO. It was subscribed at Rs. 148 per share against the expectation of Rs. 175 per share.

[10] The Hindu (December 22, 2004)
[11] IPO Prospectus (2006) p.120,

The need for finances increased with the formulation of an aggressive expansion plan to connect as many airports in India in as short a time. In 2005, Air Deccan signed a contract worth US$1.4 billion (approx Rs. 60 billion) for buying 30 Airbuses and 30 ATRs to be delivered in the next five years. The enterprise assigned its supply contract in favor of a special purpose company promoted by Investec bank, UK, and HSH Nord Bank AG of Germany. In return for renouncing its rights over the contract the enterprise obtained a non refundable sum of US$100 million (Rs. 4 billion) it, however, retained the right of first refusal. According to the agreement, when it went to the company to buy the plane, it had to pay a premium over what the airline had agreed to pay to Airbus. The deal was seen by analysts as a landmark deal. Later on, the company also obtained US$400 million from a consortium of five leading international banks Calyon, Grindays, Barclays, HSBC and StantChart to finance the acquisition of 21 A320s and 27 ATRs over five years.

The enterprise continued to incur operating losses in 2006 and 2007. It had announced a loss of Rs. 2.13 billion in the quarter ended March 2007. In 2007, the company was incurring a loss of Rs. 500 per seat. It appeared that the company would not be able to generate funds from internal accruals to fund its expansion plan. It proposed to raise the funds through sharing of equity with a strategic investor. The enterprise assigned the task to a financial services company Edelweiss. Those who showed interest in funding went through due diligence and long discussion with Capt. Gopinath and his CFO. No one confirmed his investment. In early 2007, one of the country's top-most business houses Reliance-ADAG initiated the due diligence of Air Deccan, signaling the former's entry into the expanding civil aviation sector. This deal could never be concluded because Capt. Gopinath was not ready to part off with the controlling stake in Air Deccan. Finally, in the last week of May 2007, Vijay Mallya of Kingfisher – a recently launched competing

airline in the full-service segment – persuaded Gopinath to allow his holding firm – UB Holdings – to buy out 26% stake in Air Deccan at Rs. 155 per share (which was apparently higher than the Reliance ADAG's informal offer) amounting to Rs 5.5 billion. Mr. Mallya emerged as an aggressive bidder by arranging and providing an advance of Rs. 1.5 billion within three days. The board meeting was at 5.00 pm and the money was sent by 4.15 pm. He also argued that a new entry in the industry would create a competitive game that would bleed the industry. Air Deccan board, on 31st May 2007,approved the issue of 26% equity to UB Holdings for an investment of Rs. 5.5 billion. The advantages cited in favor of the move were the synergies from the sharing of infrastructure, connectivity, resources and best practices in ground handling. As per the regulatory requirements, Mr. Mallya made an open offer to raise his stake to 46% in September 2007 and Air Deccan shareholders tendered 35 million shares against the required 27.1 million shares at Rs. 155 each, thus giving a controlling stake to Kingfisher.

3.4. Innovating Challenges

3.4.a. Innovating Challenges – Infosys

The most widely adopted innovation by Infosys was the substitution of their on-site engineers with off-shore developers. This helped in reducing the cost, increasing the supply-base and ensuring a proper control over the process. They tapped into the various educational institutes and recruited top engineers to work for them. The engineers were glad to work on overseas assignments and Infosys had the benefit of earning revenues in foreign currency and bearing the costs in the devalued Indian currency. Gradually, they augmented their offering by providing maintenance support and upgrades for the applications developed for the clients. This helped them in generating additional revenue

and spread their costs across more activities. The leadership institute at Infosys, started with an objective of providing the core-skills in software development and project management, was another innovation to cope with the increased competition among the firms to tap the talent pool. With the help of their leadership institute, they were able to increase their spread of educational institutes from top engineering colleges to include other undergraduate colleges and universities, further reducing their costs.

Over the years, Infosys started an Employee Stock Option Plan (ESOP), which enabled them to empower their employees by providing them Infosys shares at a marginal price. Not only did several of their employees turn into millionaires, it also instilled a pride within the employees of 'owning' the company they worked for. This helped them in keeping their employee retention costs at a lower value and thus helped them in facing the monetary challenges also in a better fashion. It also became the one of the first Indian corporations to be listed on NASDAQ to raise funds and build their public image in the western world. It was not only the first Indian company to be listed on an American exchange, but also the first software company from India to gain visibility at the global level. This raised the valuations of the firm substantially and increased to over US$25 billion mark.

3.4.b. Innovating Challenges – AES

AES name has become synonymous with many innovations in the organizational processes.

Structure: AES organized its structure and systems of hiring, compensation, information and so on in a way which gave people the power to make important decisions. The absence of specialized functional groups and a decentralized flat structure with multi

skilled teams allowed them to work as business people. Called as 'honeycomb' structure in AES, the small self managed teams cooperate efficiently without any centralized interventions.

Decision making and problem solving: The extremely empowered teams at AES enjoy enables a fluid, autonomous, and bottom-up approach in decision-making. The responsibilities pushed down to the lowest level possible, encourage every individual to take ownership for the entire project. The founders believe that decentralization and autonomy in decision-making has helped AES in achieving and sustaining the growth in this complex sector. Employees are rotated across different teams to develop wider perspective on a variety of issues and take up positions of responsibility. AES operates without any written policies or procedures. The teams are empowered to take decisions and also responsible to raise funds for the projects. The multi-functional structure of the team ensures continual learning at the team-level.

Financing: In order to mitigate risk, AES financial strategy was to treat each plant as a separate project and finance it through non-recursive financing from local banks and other lending institutions. Often AES's equity investment in a project/subsidiary was the minimum amount needed to secure as much debt financing as the lenders would agree to. It also pursued many relatively small projects so as to minimize spillover of problems. Except for a few competitive markets, all AES projects had long term contracts with purchase price indexed to inflation, currency fluctuations and other specified risks.

Plant operations: AES power plants generate power from a wide range of fuel sources, including natural gas, coal, oil, petroleum coke, wind, biomass and water. Rather than being tied to a single type of technology or force-fitting a rigid solution, they identify what each particular market and environment can best support. This helps to bring

numerous benefits, including increased generation capacity and reliability and lower costs to consumers.

3.4.c. Innovating challenges – Air Deccan

While the concept of no frills airline was not new to the International Airline Industry, Air Deccan adapted it for the first time in India. In deviating from the current model of full service airline, it introduced several modifications in the roles of the cabin crew, compensation package, scheduling and sale of tickets. It positioned itself close to the substitute, i.e. travel by road or rail. To be able to access the larger volume of passengers it reduced the fare and made the buying of tickets easy. It developed multiple channels to sell its tickets and adopted the practice of dynamic pricing. Its rules for cancellation and refund were different from those of full service airline. It imposed a penalty on rescheduling the booking and did not refund the ticket amount. The passenger however could travel another day with the cancelled ticket. The differences of revenues between Air Deccan and a full service models were as compensated in form of cost-cutting by various innovative ways. Air Deccan's pilots stayed in company guest houses and transit houses while the full service airlines pilots stayed in five star hotels; it did not have a separate cleaning staff and the air hostesses cleaned the aircraft and obtained a cleaning allowance; transit inspections were not done by a separate engineering staff, but the pilots themselves did the inspection.

Air Deccan had 70 employees per aircraft while Indian had 400 and Jet over 170. The cost per seat per kilo meter was Rs. 2.45 compared to Rs. 2.8 of the competitor. To reflect

explicitly its commitment to the common man it adopted the common man[12] as the brand ambassador and sported it on its airline.

The entire inventory of seats of Air Deccan was available online. Passengers could book the tickets through various channels viz. city office counters at Bangalore and Chennai, website of Air Deccan[13], 24x7 call centres, airport counters, travel agents across India, Reliance Web Worlds[14], other commercial web sites, Club HP outlets of HPCL[15] in 7 states of India. For the first time in Indian Aviation, the passengers got an opportunity to book through alternative channels. Air Deccan rewrote the rules of buying and flying in India. The payments could be made by cash or by credit card. Air Deccan began the practice of issuing e-tickets that had to be produced at the counter along with photo identity card. Air Deccan also became the first operator in India to adopt dynamic pricing system and started competing on price. For example, the competition charged return fare of Rs. 19,000 per seat between Delhi and Tiruvananthapuram. Air Deccan cut the price to Rs. 10,000. Similarly, the fare between Bangalore and Cochin sector was reduced from Rs. 4,800 to Rs. 3,000. On the Bangalore – Delhi Sector, the last day fare was dropped from Rs. 6600 to 5200. In contrast the fare of full service airlines was Rs 11,400. The last day fare on Delhi – Chennai sector was reduced from Rs. 6600 to Rs. 4500 against the full service airlines fare of Rs. 11800. On June 7th 2005, the company also released 1800 tickets priced at One Rupee per ticket. The total fare to the customer included the taxes amounting to Rs. 221.

[12] 'Common man' has been a very popular character in Indian households. It originated over 50 years ago in form of a comic strip, conceptualized and executed by well-known cartoonist R K Laxman, appearing in a national daily
[13] www.airdeccan.net
[14] Customer Care shops of a leading telecom service provider in the country
[15] Hindustan Petroleum Corporation Ltd. – a downstream supplier of automobile fuel, with outlets spread through out the country

3.5. Balancing

3.5.a. Balancing challenges – Infosys

Infosys balanced its activities of exploring and exploiting the resources in the environment as per the business requirements. In the initial years, they explored and came up with innovative ways to design their offshore offering to the customers and entered into new types of alliances, while later on they started exploiting their knowledge base and developed a group of domain competencies within the organization which fuelled their growth in various verticals. The balancing of the short-term and long-term gains was done in a way that their exploration-exploitation strategy was sustained over the span of 26 years and it helped them in establishing them at all major markets of the world.

In the first 10 years of existence, Infosys explored its environment by entering into alliances – first with DBC and then with KSA – and tapping the environment for finances. This strategy was useful while it was congregating its capabilities from resources residing outside its boundaries. However, after 1993, it started cultivating its capabilities by developing its own infrastructure and exploiting resources from within the firm. They developed their domain competencies within different Strategic Business units, each one of which was responsible for its line of operation. Each SBU was run as a self-contained organization comprising functions such as sales, marketing and delivery. In 1998, Infosys re-organized itself into different Practice Units (PUs) organized by geography, with dedicated sales and delivery organizations (Garud, Kumaraswamy and Malhotra 2003). A centralized Domain Competency Group (DCG) was established in 1999 to provide functional support to each PU. Each PU also had coordinators for support functions, human resources, finance, education, research, quality, IS and administration. In 1999, Infosys established a knowledge management architecture that enabled the firm to

transfer learning between the various PUs, the DCG and the Software Engineering and Technology Labs (SETLabs). These measures helped Infosys in leveraging its learning from each project and apply it across different projects over time.

In 1999, Infosys again began exploring the environment by setting up global delivery centers in different parts of the world. This was necessary to increase their proximity to the clients as well as mitigate their increasing costs in India. This exploration strategy encompassed exploring the global environment to recruit local talent and meet the local requirements of the host country. Having done that successfully, Infosys now exploits every Global Development Center to utilize the competencies of the local talent pool and transfer practices across locations and projects.

By 2004, Infosys had a wide customer base with revenues spread across industry segments like financial services (36%), manufacturing (15%), telecom (16%), retail (12%) and others (21%); and spread across geographies like North America (71%) and Europe (19%), Rest of the world (10%)[16]. In order to leverage its reach across the globe and expertise across industries, Infosys ventured into management consulting domain, by hiring senior employees from the world's leading management consulting firms. The subsidiary – Infosys Consulting – was incorporated in US and was an evidence of Infosys' strategy of exploring into newer domains and building them on its existing foundation.

3.5.b. Balancing challenges – AES

AES operates in an industry which has high entry barriers. AES's global operations made its environment extremely diverse and imposed challenges to create new knowledge and

[16] From SEC Filing Report 6K, filing date 5/21/2004

also to exploit existing knowledge in the organization. Since environment for each country and business was different it required a combination of exploration and exploitation to succeed. AES unique culture and focus on the need to exploit local knowledge helped it to grow in countries with very different settings. Though a US based company, it had only 8% people with English as their first language. AES march to becoming a global giant was helped by its innovative management systems which allowed it to create new opportunities through exploration and exploit created opportunities by leveraging on their stock of competencies. Exploration enabled them to win bids and gain entry into the new territories whereas exploitation enabled it to run those plants more efficiently and at lower costs.

3.5.c. Balancing challenges – Air Deccan

Air Deccan, in a short span of 4 years, had seen an explosive growth in its business. This required a lot of balancing between exploitation and exploration of capabilities. The initial years were marked with exploration of capabilities in form of employees, funding and operating model. Even the business model was in a way inspired by the Southwest Airlines and Ryan Air. This led to running the operations for the first 3 years on an ad-hoc basis, amounting to unsustainable losses. In order to fund the shortfall in funds, it again explored the environment for a partner to bail it out. Initially Mr. Gopinath had ruled out any stake sale to Kingfisher, another airline on the ground that the philosophies of the two companies were different by stating that “They (Kingfisher) are from Venus, while we (Air Deccan) are from Mars” However, finally when the deal was done, it was agreed that Capt. Gopinath would be the executive chairman with no casting vote, and would play the role of mentor to guide and support the professional CEO, whereas Dr.

Mallya would be the vice chairman of the company. But once Kingfisher had achieved the controlling stake through an open offer, the operations were merged in late 2007 stating synergy benefits.

Initially Air Deccan started by operating only on the under-served secondary routes, but in order to achieve scale it chose to enter the trunk routes in 2005. By then, Air Deccan was connecting the largest number of airports in the country, however this balancing act led to increase in the losses as the trunk routes were over-served by the full service airlines and to penetrate in this sector, Air Deccan had to cut down heavily on its fares. Though it got a dominant presence on the national map – especially on the secondary routes – it recorded highest losses after the entry on the trunk routes.

3.6. Summing up

Summing up, Infosys has faced the start-up challenges and moved from its nascent operation at a single location to a global corporation spread across time-zones. The processes within Infosys have evolved from a mere software development process into a value-adding activity where they act as strategic business partners for their clients, virtually managing their IT operations. Similarly, AES moved from a single cogeneration plant to a global energy giant with presence in several countries. Their value system supported by the structure, processes and people enabled the business to sustain the downturns, scale, and grow in a co-evolving environment. Air Deccan faced several unique challenges during its early formation and though it could not sustain its individual identity, it did overcome few challenges on its own and for the rest it had to reach out to the environment.

4. Discussion

Growth spurts are realized when organizations overcome key managerial challenges. Firms may lack certain competencies to successfully embark on the process of growth spurts. Evidences from the three organizations indicate that the challenge to organize or accumulate required set of competencies is overcome by alternating between congregating and cultivating competencies. Sudden unanticipated opportunity warrant quick congregation of capabilities. At the same time, to harness anticipated opportunities, firms engage in cultivating competencies.

Firm approaches the environment with an offer. The uniqueness or the newness of the offer may create lag between the offer and the response from the environment. All three, Infosys, AES, and Deccan had a new offer for the environment. A delay in response would mean costly losses and lost opportunities in a potentially opportunity rich environment. To overcome this challenge, firms engage in activities aimed at educating the environment. This responsibility is assumed by some organizational members by taking up ceremonial roles outside the boundaries of the organization. Educating environment reduces the lag as well as releases the much desired opportunities and resources required for growth spurt.

Monetary challenges are faced by the organization time and again. In the early years of an organization, these are overcome on the promise of the business model. However, the support increases manifold when the model gets acceptance and recognition by the environment. Infosys and AES ability to tap the financial market propelled their global ambitions. Evidences from these two cases indicate that overcoming financing challenges helped them in scaling up. In contrast Deccan inability to access required funds from the

market curtailed its expansion plans. Thus environmental support is crucial in overcoming monetary challenges.

In all three cases, the entrepreneurs were able to overcome initial challenges to their business model. Continued environmental support ensured increase in scale and scope of operations. However, the regular growth spurts brought in fresh set of challenges which are probably different and also more difficult than the ones faced by the organization in its early years of evolution. Empirical evidence show that both Infosys and AES were able to overcome these new challenges thorough organizational innovations. The crisis of 2001 was successfully handled by AES as it had innovative system of funding projects through off-balance sheet financing. In contrast, Deccan failure to bring in any new innovations when competition increased resulted in problems for the organization.

With increase in scale and scope, firms face dilemma of tapping new opportunities either by exploiting their existing competencies or exploring new competencies. Evidence from the three cases shows that while AES and Infosys used more of exploration in diverse environment to increase their scope. However, the growth in scale came from exploitation. Thus it is more important to match environmental demands with organizational solutions. Deccan's problems arose when it insisted on exploitation and not exploration even when the dynamics of the environment had changed

It can be seen that the interaction between the firm and environment is dynamic and contingent in nature. While overcoming competence, monetary and educating challenges led to creation of new business opportunities, overcoming innovating and balancing challenges led to exploitation of opportunities. This explains the process of growth spurts experienced by certain organizations. Our empirical description captures both the

environmental and organizational context of the growth spurts. This increases the predictive explanation of the process.

5. Conclusion

This paper carries important theoretical implications for both entrepreneurs and strategy researchers. The concept that there are key challenges which need to be overcome to realize growth spurts is important for entrepreneurs. The insight that this process involves soliciting active support of environment is important for strategy researchers. This paper created a new means-ends framework to study entrepreneurial growth. This paper's conceptualization of overcoming generic challenges as means, and growth spurts as ends provide another anchor to study interaction between the firm and environment. However as our focus was on identification of the challenges, we didn't study the interaction or the chronology of these challenges. Future research should focus on studying the trajectory of the entrepreneurial ventures, especially the fast growing firms which have been able to overcome the challenges and sustain their business.

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