

Metamorphosis of Entrepreneurial Ventures: A Holistic Paradigm from Two Tales

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Metamorphosis of Entrepreneurial Ventures: A Holistic Paradigm from Two Tales

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Abstract

Some entrepreneurial ventures grow into large organizations within a relatively short duration. These startups rapidly increase their scale and scope to turn into matured organizations. Though the literature is replete with such examples, there is no explanation for such a phenomenon. Also, nothing has been said about the role of the environment in metamorphosis of such ventures. We look at two global organizations and explain their metamorphosis. We arrive at four dynamic stages through which an entrepreneurial venture grows: prime pillar formation stage, scale catapult stage, scope enlargement stage, and maturity stage. We also explain the different roles played by the firm and the environment during each stage, the interactions between each of these roles, and the dominant strategic process underlying in each stage.

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1. Introduction

Corporate entrepreneurial history reveals that some new ventures have metamorphosed themselves into giant multi business corporations in a relatively short time. Key examples are Acer (Hayes, 1991), AES (Grant, 1997; Thompson, 2003), CISCO (Chatman, O’Rielly and Chang, 2005), Infosys (Garud, Kumaraswamy and Malhotra, 2003), Microsoft (Herbold, 2002), Starbucks (Gulati, 2007), Xerox (Gomes-Casseres & Mcquade, 1991).

When a start up metamorphoses, analysts provide a pointer towards either the entrepreneur and the promoting team or the product that the company sold or the regulators who passed laws that made the business environment of the start up favorable are made heroes. At times the initial organizational culture is made a hero as in IBM (Chacko, 2005). Such an explanation is partial and does more harm to ‘the entrepreneurs to be’ than good. We need to understand the metamorphosis holistically. We attempt to do this by tales of two new ventures namely Infosys, a company in the global software sector, and AES, a company in the global energy sector. We identify phases in the metamorphosis and the roles played by the venture and its environment in each phase. We assess the nature of mutuality between the roles of the organization and the roles of the environment to explain the metamorphosis. Based on this we develop a holistic paradigm of metamorphosis. The data for the study has been collected from field interviews and published information on the company⁴.

⁴ Data Includes cases written by other academicians based on field interviews and information in public domain. While we were involved in primary data collection for Infosys, the AES tale is based only on the published information cases

From a small seven member start up set up in a small room in Pune, Maharashtra, India, on 2nd July 1981, Infosys Technologies Limited has metamorphosed into a multi country-multi technology-multi business giant employing over 80,000 people for a turnover exceeding US\$3 billion⁵. Its global development centers are spread across Asia, Australia, Europe and North America. The founders, led by Narayana Murthy, came from middle class family back ground with no business orientation, but with strong academic credentials. Its Global Delivery Model (GDM) is recognized as one of the most sustainable innovations in the field. In the last 26 years, Infosys has won several accolades and certifications to its credit. Its client base has some of the top global companies and it continues to get more clients providing with multi-year contracts. . Refer **Appendix-A** for metamorphosis and transformed profile of Infosys. When Infosys was founded, India was a closed economy with tight controls on industrial licensing and trade. The bureaucratic setup was corrupted and companies found it difficult to follow fair and transparent policies. But Infosys followed its business values to do business within an adverse economic environment, and was able to sustain itself in the initial years. In the first five years, it operated through sending their engineers to client sites for application, development and maintenance. Once the remote connection facility was available, they shifted the majority of their software development work to offshore centers in India, thus giving rise to a new practice of offshoring. Infosys grew quickly on this model and was able to scale its operations within a relatively shorter period. Not all organizations that were set up around the same time have reached this level of achievement. On the contrary, several organizations that were set up in the software sector after this company have folded up – they have either closed down or sold out. Along with the venture, the

by other academicians. (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)

⁵ As per www.infosys.com on November 23, 2007

environment of software development also metamorphosed in a mature environment. The public policy became increasingly favorable, as a result of which the government of states invited software companies to set up development centers in their major centers and the central government offered several tax incentives. Financial institutions were ready to help fund the new software ventures with soft loans based on the credentials of the entrepreneurs. Educational institutions supplied the required talent in form of skilled manpower. The customers also increasingly experienced the benefits of global software development and were more than willing to utilize the services of software firms spread across the world.

Applied Energy Systems now called AES Corporation was founded by Roger Sant and Dennis Bakke in early 1981. From being a small entrepreneurial start-up in 1981, AES went on to become a leading global power company in 2006 with operations in 28 countries on five continents, revenues of \$11.6 billion, 30,000 manpower, and a capacity to serve 100 million people worldwide. Sant and Bakke's intent was to create a firm which gives sense of engaging employees in interesting activities and while they wanted the company to be profitable, they didn't believe in the philosophy of maximizing shareholder wealth as the primary motivation for any company. Instead they were of the opinion that companies exist to serve people. AES is guided by four shared values of integrity, fairness, fun, and social responsibility. Since its inception, AES has gone through uninterrupted long phase of growth, brief setbacks, and successful turnaround program. While deregulation provided the setting for the company's birth and its subsequent unprecedented business growth, it was driven by the thinking and strategic intent of its founders that AES was there to provide reliable, low-cost electricity to people in a socially responsible way. Refer to **Appendix-B** for metamorphosis and transformed profile of AES. Very early in its evolution, the company faced its first test on

organizational values. It had to choose between a costlier but cleaner process developed by Hitachi versus a cheaper but dirtier process. After much deliberation AES chose the former process sacrificing a portion of its profit. This laid the foundation of company's value system and symbolized its commitment to their laid down principles even at this early stage of their growth.

Drawing from the above two cases, we propose in this paper that a metamorphosis happens as an outcome of the dynamic and symbiotic interaction between the roles played by the organization and those of the external environment. We identify the key roles and key types of interactions. We develop the metamorphosis paradigm by linking concepts like 'co-alignment' (Venkatraman and Prescott, 1987), 'co-evolution' (Levinthal and Myatt, 1994), 'dynamic capabilities' (Teece, Pisano and Sheun, 1997) and 'disruptive and sustaining force' (Tushman and Anderson, 1986). We also use the concept of 'multipliers' to explain the internal and external augmentation of the positive and negative influences on the organization and the environment.

The rest of the paper is organized as follows. We first discuss the managerial challenges of a startup. The next section explains the tales of two ventures. We follow it up with analysis and propose a model for metamorphosis of entrepreneurial ventures. Finally we conclude with the implications of the study.

2. Transition Challenge of the Enterprise

Every entrepreneurial venture, during its journey from a startup to a mature organization, faces several challenges in terms of competencies, finances and innovations. The venture, at different phases of growth, needs to make a choice between congregating competencies available in the external environment and cultivating its internal competencies. While

growing in a tentative environment, the venture not only has to tap the environment for resources like funds, technology and infrastructure, but it also has to educate various entities in the environment. In order to push and propel the business on the prime-pillar on which the venture was formed, it needs to continuously innovate and think of new ways of achieving efficiency and effectiveness. All these challenges faced by a venture demands resources- time, knowledge, money and goodwill- from the entrepreneur and the enterprise. The enterprise has to allocate its resources to overcome these challenges judiciously and to create a synergy and not competition across its initiatives. Over time, the responses from the environment ensure success in realizing the aspirations and sustaining the initiatives and their results. While a good balance is necessary to even survive, a slight imbalance may signal the directions towards failure. The challenge is in achieving not a one time balance but repeating it over a longer time horizon – across the various dynamic stages of its growth.

While moving across different stages of growth, actions of the startup in response to the challenges provide stimuli to the environment to respond. We articulate that the actions of the start ups and the responses of the environment to these actions create dynamic stages. In each stage, the startup plays a role vis-à-vis the environment and performs certain activities. In response, the environment responds either by acting independently or by reacting to the firm's actions which sets the stage for the next interaction. In the subsequent stages, the firm either explores new alternatives or leverages on the existing resources. The outcomes of these explorations and exploitations (March, 1991) determine the trajectory of the metamorphosis.

3. Tales of Two Ventures: Transition across Dynamic Stages

During the last 26 years of existence, Infosys & AES have initiated several actions and have faced several responses to these actions, resulting into dynamic interactions between the firm and its environment. Let us look at metamorphosis of these two firms across stages.

3.1. *Dynamic Stage-1:*

Infosys: 1981 to 1991

In the first stage, Infosys played a role of a modest startup trying to explore the capabilities in the environment. It started off with help of alliances. During this stage, Infosys established itself within India with the help of several institutional supporters. This support helped Infosys to exploit the capabilities existing in the environment and survived the initial years through a symbiotic relationship with the environment.

At the time of founding, 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. The initial investment from the entrepreneurs was as little as Rs. 10,000 (~USD 1,000) majority of which was provided by Sudha Murthy, a software developer and wife of the Narayana Murthy. 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) and Karnataka State Small Industrial Development Corporation (KSSIDC). 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 (~ USD 0.24 million) for Infosys in 1983⁶.

At the outset, they faced difficulty in obtaining the bare-minimum requirement for a software firm – a computer. They 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 1981, Infosys entered into an agreement with Databasics Corporation (DBC) – their first client, 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. It was difficult for Infosys to setup independent operations in USA, so they joined hands with management consulting firm Kurt Salmon Associates (KSA). Infosys/KSA setup their

⁶ Press Release, April 2004 <http://www.infosys.com/newsroom/press-releases/2004/global-delivery-model-evaluation.asp>

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.

During this stage, technology was readily available and the founders possessed the necessary experience. This led to a very straightforward business-model that required them to fetch clients, develop applications and supply it to them. In order to sustain, it sought help through alliances and Joint Ventures to feeding on to networking abilities of their partners and were able to fetch a sizeable business that ensured their survival for the first decade. In terms of talent sourcing, they were getting good English-speaking engineers from the top engineering colleges. The education institutes in India had already started computer science as a specialized stream and hence Infosys was able to get the talent as required by their business needs. In addition to this, there was a telecommunications technology available for connecting to the client systems that helped them in developing software in India and uploading the applications sitting here. This was possible because of the established infrastructure sourced on the environmental support. In absence of this support from environment, they would have never been able to experiment the offshore development model and would have taken many years to graduate to the next level of dedicated offshore development or the global delivery model. At the time of founding, Infosys founders also laid down a policy of fairness and honesty which, over the years, became prime pillar of Infosys.

In a sum, in the first dynamic stage, Infosys was dependent on the environment for each of its requirements and sought support from various environmental entities. The

environment provided an opportunity, to which Infosys responded with a sound business model based on a strong business philosophy.

AES: 1981 to 1985

Both Sant and Bakke - the founders- had prior experience of working in energy business. Sant, who used to teach finance at the Stanford University's School of Business Administration, joined U.S. Federal Energy of Administration (FEA) at a time when Organization of Petroleum Exporting Countries (OPEC) had launched its oil embargo. The oil embargo had thrown the world's energy market in turmoil causing short supplies, long queues, and sky high energy prices. Bakke, who had an MBA degree from Harvard was also at FEA . At FEA, both Sant and Bakke studied all aspects of energy use ranging from homes, machinery, and transportation to business and gathered valuable insights about the functioning of energy markets. Their findings led them to believe that energy was a commodity and therefore consumers would have no preference for the source of energy and they would tend to gravitate towards a source that could provide them economical, clean, and safe energy. They also realized that the energy requirement of the world could not be met through conservation measure alone. The large requirement of modern industrial societies can be met only through an efficient and cheap source of energy and since the regulated monopolies and government-owned electricity makers had failed to meet the demand, the supply push had to come from the independent companies operating in a competitive market arena. Fortunately for them, opportunity came in 1981 in the form of Public Utility Regulatory Policy Act (PURPA), a law enacted in USA. The aim of this act was to encourage private power producers to undercut the large utilities so as to reduce American dependence on foreign oil. It sought to diminish this dependence by requiring electric utilities to source their partial power need through qualified

cogeneration⁷ or small independent power producers, provided that the power thus generated was at a lower cost than the utilities production cost. This act provided an opportunity to small producers and created a new private sector power market. And these producers were free to undercut the utility's cost of production and grab a large chunk of the market. Both Sant and Bakke were involved in preparing the draft of PURPA. This made them much more aware of the opportunities than the other players in the market. The promoters of AES sensed this opportunity and started as a small entrepreneurial start-up in 1981 thus giving them a first mover advantage. In fact they always viewed their research job as temporary, aspiring to set up their own entrepreneurial venture. However, they were driven by conviction of their business logic and aspirations of a type of organization with values of honesty, integrity and social responsibility. With continuous reinforcements, these values became the prime-pillar for the organization. While the environment was munificent in terms of opportunity, it was not so forthcoming in terms of providing support for exploiting that opportunity. They faced problem in arranging for finances. They could sail through only with the support of private equity and somehow they raised \$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 but without any success. However, with the successful implementation of their first project, arranging for finances was easier. The first business opportunity for them turned out also to be an opportunity to test their conviction. AES faced its first test on organizational values. It had to choose between a costlier but cleaner process developed by Hitachi versus a cheaper but dirtier process. After much deliberation AES chose to chose the former process sacrificing a portion of its profit. This laid the foundation of company's prime-pillar and symbolized its commitment to their laid down principles even at this early stage

⁷ Cogeneration is the process where the both electricity and power are produced coke

of their growth.

In this stage of its development, AES differentiated itself from the others by congregating capabilities required for running plants efficiently and acquired recognition for its high plant efficiency. The environment not only recognized AES' high operational capabilities, it also appreciated the company's commitment to a strong value system. For AES, 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. However, its decision making continued to be guided by its prime-pillar.

3.2. Dynamic Stage-2

Infosys: 1993 to 1998

With the deregulated environment and the devalued currency, Infosys sensed a great opportunity in the offshore development model. But instead of being dependent on the institutional environment for financial support, Infosys raised money through offering equity stake in the primary market and thus emerged as an independent and a professionally run software firm. However, during this stage its relationship with environment changed drastically. The environment was in a nascent stage, learning from Infosys and partnering it in different activities.

Infosys raised Rs. 130 million (~USD 4 million) in gross aggregate proceeds through the 1993 IPO and Rs. 250 million (~USD 8 million) in gross aggregate proceeds through a

private placement of shares in October 1994⁸. 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. Infosys went on to establish several centers in India (Table-1) and abroad (Table-2), thus transforming itself into a full-fledged provider of software application development and maintenance.

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

<u>Location</u>	<u>Year of Commencement</u>
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

<u>Location</u>	<u>Year of Commencement</u>
First International Office (with KSA)	1986
Office in Europe (Milton Keynes, 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

In the second stage, Infosys' requirements of talent started increasing at a much higher rate than the increase in supply for computer science engineers. This was fuelled by the increased competition from various software firms that were setup to exploit the

⁸ News Article from <http://inhome.rediff.com/money/2001/may/08info2.htm>

opportunity of low cost software development available in India. At the same time, Infosys and other established players started getting projects where they were required to design the systems before developing the software. These factors increased requirement of quality and quantity of talent, due to which Infosys started recruiting students from allied engineering streams and also experienced professionals from other sectors like manufacturing and financial services. This required them to equip these professionals with the necessary software development skills and training. For this, Infosys had to start its own training and development facility to maintain the quality of the recruited professionals.

The regulatory environment also acknowledged the efforts of Infosys and the top software firms in generating foreign currency and employment for the professionals. These efforts were rewarded by providing them a tax exemption – initially on a yearly basis from 1995 and then for a decade starting from 1999. In the second stage, activities of Infosys were much more dominant and independent than in the earlier years. It started exploiting its infrastructure in form of development centers and institutionalized its unique process and project management systems. While Infosys was the first organization to achieve global certifications, it became a role-model for several other companies – existing and the new entrants. Whichever city it expanded, there was a marked difference in the employment generated directly and indirectly by their development center. Infosys was also attributed with spearheading of the growth of Indian software industry, thus transforming it from a symbiotic firm towards an independent firm in an emergent sector.

In a sum, during the second stage, Infosys was more dominant and the stimuli to growth were more internal than external. The environment acted as a support for scaling its operations; while Infosys invested into infrastructure and went on to grow into a much larger organization.

AES: 1985-1990

The successful implementation of the first project gave AES the necessary recognition and credibility in the market. However, since power generation was under the control of state/national governments, it was necessary to solicit their support for new opportunities. While they were receptive to the idea of private power producers, the issue of credibility and trust were important to them. In short, AES environment was extremely diverse, skeptical, and tentative. Intentionally or otherwise, 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. Initially the environment was tentative about the applicability or acceptability of AES model, but later it accepted AES business model and way of working. From a distant or passive watcher, it was now ready to experiment with AES way of working business. After that arranging for the finances was easier. During the remainder of 1980s, AES gradually expanded the number of electricity generating plants it operated and was constructing. It built its first power plant in 1985 in Texas in US. It also signed contracts to supply electricity at two locations in US. With this AES started to look operating power plants as its core business. In next five years that is from 1985 to 1990 it added another three plants in the US. With financing getting easier, AES expanded the number of plants from 1 to 5 in three years. During this stage, AES witnesses explosive growth in its scale of operations. The business grew multifold. It developed capabilities in financing, construction, and operations of power plants. In fact, by 1988 AES became the largest independent (non-utility) producer of electric power in the United States. It continued to build its image of a responsible power producer and 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. In recognition of these initiatives, the company received several awards during these years. In fact most AES plants set new records for their reliability. The firm and the environment became supporter of each other to exploit available opportunities.

3.3. Dynamic Stage-3

Infosys: 1999-2007

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 USD 70.38 million in gross aggregate proceeds through its initial US public offering of American depositary shares⁹.

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. The rate of change in the environment surged in this stage. The Indian software industry for last 5 years has witnessed a steady growth of around 20% (NASSCOM, 2007) and several Indian and foreign firms are being a part of the growth story. While Infosys is growing at a comparable rate, there are more factors in the environment which are affecting Infosys directly and indirectly. However, in order to sustain its scaled up operations, Infosys expanded its scope of offerings. During this

⁹ News Article from <http://inhome.rediff.com/money/2001/may/08info2.htm>

stage, Infosys has entered afresh or expanded manifolds in sectors like financial services, retail, telecom and transportation – all of which are facing an unprecedented growth. This has not only helped in increasing their scope of operations, but also helped in expanding their service portfolio. Another response to the stimulus of high growth has been its global development centers in different countries. As the Indian economy – especially the service industries – have been witnessing double digit growth rate, there has been an additional pressure on the factor markets of talent and real estate. In order to counter this, Infosys has started expanding its operations across different locations outside India, thus adding to its geographical spread.

AES: 1990-2000

From 1989 onwards, AES expanded outside US market and established plants in many countries. It was possible because U.K had embarked on a deregulation drive for its electricity sector. The success of U.K. model spurred many other countries to deregulate their fledgling electricity sector. This opened a flood of opportunities for companies like AES who by that time had already developed knowledge about financing, construction, and operation of power plants. AES went public in 1991 and made its first international foray by acquiring two plants in Ireland. By 1993 AES became a global company with presence in 17 countries. This exposed them to huge risks, but through innovative off balance sheet financing system, they could reduce their financial risk. In 1994, AES organized itself around six geographic divisions. The company came to be recognized as “The Global Power Company”. In 1996, AES won several new projects. Its work force increased to 6000. Having gained a foothold in global energy generation business, in 1997 AES acquired distribution rights in several locations serving 8 million customers. In fact this was AES’s first important investment outside power plant operations. The manpower strength swelled to 10,000. In 1998, AES was included in the Standard and

Poor's (S&P) 500 list. AES continued its acquisition spree by acquiring a utility company in 1998 and a large power plant in England in 1999. A new opportunity knocked at the doors of AES when a new legislation in US allowed customers to choose their electricity supplier. AES latched on to the opportunity and entered into the competitive retail market for electricity in several states in the U.S. To handle the expanding business, company was reorganized round 14 business groups. The company came to be recognized as "The Global Power Company". From construction it had moved to generation and now it entered into the distribution business winning rights in several locations. A new legislation in U.S. allowed it to enter into the competitive retail market. In 2000, AES made a series of acquisitions to expand company's position in Latin America, U.S., and other foreign countries. Recognition from the environment came thick and fast. AES was included in S&P 100 mark and also in 15 Dow-Jones utility averages.

In this stage, AES experienced rapid expansion in its scope of operations. It received active support from the environment as countries after countries realize the usefulness of deregulating power generation sector. AES could capitalize these opportunities as it continued to explore and diversify. Also by this time, AES had become a role model in power generation business because of its value systems, its unique organizational processes, and strong capabilities in financing, construction and operation of power plants. There was an active collaboration between the firm and the environment to create opportunities for business growth. It was a win-win situation for both. Environment assumed the role of active autonomous galvanizer.

3.4. Dynamic Stage-4

Infosys: 2007 onwards

Currently, Infosys is in the stage where it has a global presence with over 80,000 employees spread across 44 development centers. In 2004, it setup its own consulting division in the US, with the help of several senior consultants from global consulting firms. This was done in order to leverage their expertise in systems implementation, industry knowledge, and presence in various countries spread across the world. The environment is supportive and has rewarded its expansion and maturity as a global solutions provider.

Back home, it is currently facing several environmental forces like strengthening Rupee, removal of tax exemptions and stiff competition in factor markets, triggered by the economic factors and growth of other industries in India. During this dynamic stage, when the environment is turbulent, Infosys is sustaining its business model on the scale and scope created in the previous stages. Since there has been a steady appreciation of the Indian currency against the US dollar, this has translated into a significant revenue loss to Infosys. This stimulus from the environment is pushing Infosys to improve its efficiency and productivity by way of moving to global locations where costs are lesser and skills and real estate are readily available. Secondly, when the environment support in form of tax exemption ceases to exist in 2009, Infosys will have to get back to a symbiotic relationship and start exploiting environment resources. It has already started contemplating entry into the SEZ¹⁰ scheme to offset the increased tax burden.

¹⁰ Special Economic Zones promoted by Government of India to boost trade and employment through infrastructure building and tax sops.

In a sum, the fourth dynamic stage has seen Infosys has attained the status of an industry icon, where every player in the market is looking up to it for future direction. It is moving up the value chain with the support of environment.

AES: 2001-2007

AES faced a severe financial crisis in 2001 but was able to successfully turnaround. The shocks of 2001 tested AES resilience and conviction in its management systems. They responded by selling assets, cutting down on capital expenditure, selling assets, and withdrawal from some of its most risky areas of business. The CEO was changed and so do some of the practices. The strategy of consolidation and rigidity was replaced by strategy of diversification. It took four years to bring back AES back to track. Since 2004, AES has diversified into new area of alternative energy. AES was managed in a highly decentralized manner till then, thus leading to a heavy hit on certain SBUs of the corporation. Stock markets did not react positively to these happenings and the AES stock was thrashed heavily. The experts in the financial markets labeled them as a case of 'empowerment gone mad' and the stock value depleted rapidly. The management incorporated a few changes in their structure, underwent capital re-structuring and re-engineered organizational processes to consolidate their position by 2002. Around the same time, energy derivatives started taking a front seat in the pricing of power which helped in firming up the revenue streams. The emerging economies further deregulated their industries and began witnessing an unprecedented growth rate, thus fuelling the demand for power. Thus AES was somehow able to survive the downturn and started growing in the right direction. All these developments demonstrated the maturity of company's processes and systems. In subsequent years, while AES continued to expand its core business of electricity by capacity expansion and entering into new markets, it diversified its energy portfolio by entering into wind and alternative energy areas. It

redefined its scale and scope by bringing in lot more business domains under its fold. In 2006, AES set up its first wind farm in the state of Texas twenty years after it constructed its first electricity plant in the same state. It then expanded its wind business in the fastest growing markets of UK, France and Bulgaria. In one year it created more than 3000 MW of wind generation projects at several locations in the world. In 2007, company was contemplating to make investments in solar power and wave technologies.

4. The Metamorphosis Model

From the tales of the two ventures, we draw the following inferences. ‘Metamorphosis’ is a process by which entrepreneurial ventures gain unprecedented speed, scale and scope, and transform themselves completely. Such ventures are driven and guided by a ‘prime-pillar’ that simultaneously protects and propels the venture. For both Infosys and AES, the value system and the concept of what they wanted to become worked as the prime-pillar of driving the business. It allowed them to operate in diverse environments¹¹ and solicit support of the environment. The concept of prime-pillar is distinct from the concept of dominant logic (Prahalad and Bettis, 1986) and occupies a higher position in the hierarchy of concepts which denote underlying philosophy of doing business.

The ventures undergo metamorphosis only when their own momentum receives further push from the galvanizing role of the environment. The venture or its members take up leadership role outside the boundaries of the firm and emerge as a role model, trend setter or a protagonist. While the role of the firm or its members in this relationship may be ceremonial, it helps the firm in shaping and directing the resource accumulation process. The environment starts looking at the venture as an opportunity and becomes a provider

¹¹ When we use the term environment, we do not use it to communicate that it is one monolith. To us it is a bundle of forces that influence the firm. It comes to the firm as a customer, a competitor, a collaborator, a regulator and as an ordinary citizen. Different forces are dominant at different points of time.

of 'free resources'. Firms utilize these resources to play the roles effectively and efficiently in each stage. The metamorphosis is enabled by the dynamics of relevant structures, systems, processes and people. It is the balance and synergy in the mutuality of the roles and their effectiveness in each stage that decides the trajectory of metamorphosis.

Looking at the challenges faced by the two ventures, we extract the essence of metamorphosis in form of the phased interaction between the firm and the environment. The metamorphosis appears to be occurring in a series of four distinct sequential stages of *Prime pillar formation stage, Scale catapult stage, Scope enlargement stage, and Maturity stage*. Under each stage, environment and firm play different roles. These roles are around various dimensions of opportunity management. Table 3 captures this dynamic relationship across different stages.

Table-3: Roles played by the Firm and Environment Across Stages

Stage	Environment Roles	Firm Roles	Dominant Strategic process	Interaction Between Roles
Prime-Pillar formation stage	Provider, Reactor, Watcher	Sense maker, Innovator, Seeker, Experimenter	Congregation of Competencies	Consensual strategy formation
Scale catapult stage	Learner, Experimenter, Galvanizer	Multiplier	Cultivation of Competencies, Leveraging, Active Investments	Mutual Admiration, Partnership
Scope Enlargement stage	Active autonomous galvanizer	Value Chain Diversifier, Geographical Expander	Exploring and Diversifying, Becoming a role-model	Opportunity Creation
Maturity stage	Cheerleader	Role Model, Synthesizer	Education, Ceremonial	Supportive Enabling

Prime-Pillar formation stage

The first stage essentially hints at a symbiotic relationship between the firm and the environment, where the firm plays the role of a seeker, innovator, or an experimenter that tries to exploit the environment that provides resources and watches the firm with curiosity and anxiousness. The environment in its episodic role, acts as a guide and selectively provides help to the firm enabling to grow into an independent entity. During this stage, the firm, as a sense-maker, focuses on build its prime-pillar to define its business. In absence of any well-developed capabilities, the firm congregates competencies available in the environment to design its offering. Each interaction between the environment and the firm is an occasion to define and test mutual demands and expectations, leading to a consensual strategy formation. This is essential to survive

in the first few years of formation, when the odds are against the survival.

Scale catapult stage

In the second stage, the firm multiplies and scales up its operating model, creating its own path and defining the environment around itself. The environment here plays the role of a learner and an experimenter that tries to invest in the fast growing firm with a caution. Based on its learning, it reacts to the rules of the game set by the firm admiring and partnering its growth. During this stage, the firm evolves into a full-fledged entity with a proper form and structure. The firm usually invests actively and consciously in building up its infrastructure. This infrastructure is utilized to develop internal resources. This stage helps the firm in firming up its processes in line with the anticipated requirements of the business. This phase would also see a lot of development and cultivation of capabilities through exploitation of internal resources. The interaction builds a strong partnership between the firm and the environment, leading to growth.

Scope Enlargement stage

In the third stage, the environment acts as an active and autonomous galvanizer as there is a co-alignment of aspirations. The firm diversifies and replicates its operational model across geographical or a horizontal spread. During the third stage, the firm actively explores, thus increasing the scope of operations. Along way, it creates lots of opportunities that the environment can choose to leverage on. The prime-pillar formed in the first stage acts as an enabler to widen the value chain. The third stage usually sees the venture changing its form and becoming a role model for the followers in the environment. This scope enlargement is usually seen to be following the scale catapult stage, in absence of which the scope expansion may not be viable or sustainable.

Maturity stage

This stage is characterized by transformation of the venture into a matured entity that can withstand the challenges faced by it. This redefines the role of environment by converting it into a supporting cheerleader. The firm, in this stage, consolidates the processes, synthesizes its business and moves to reinforce its prime pillar in order to sustain any kind of turbulence. At times, the prime pillar gets validated, thus giving it a more permanent form. Given the matured profile of the venture in this dynamic stage, it attains the role-model status and is capable of providing direction to the followers in the industry. The firm by now has several well-developed capabilities and it chooses to educate others and support their growth. The firm and environment interaction in this stage is very supportive-enabling, thus helping them to develop into their matured profile and face the world.

5. Conclusion

The dynamic stages of the metamorphosis model capture the sequential movement of the firm based on its prime-pillar, scale and scope. According to us, this paper contributes to the understanding of new venture growth by highlighting the dynamics of each phase in an entrepreneurial venture that makes a strategic choice to evolve into a large organization. Through the journey of metamorphosis, scale challenges have to be met prior to the scope challenges, and both of these challenges have to be carefully addressed keeping in mind the prime pillar of the organization. We clearly identify the transition challenges faced by an entrepreneurial venture and how the two tales provide evidences of overcoming these challenges. The metamorphosis model characterizes the different stages, the roles played by the firm and the environment, the interaction between the roles, and the dominant strategy within each stage.

We have conceptualized the metamorphosis model based on the tales of two ventures. Though this study has been done on secondary research, it provides a strong model for the metamorphosis of firms in two diverse environments, thus adding to its relevance. This model provides an opportunity to be tested for different types of challenges faced. While the model talks about the dynamic stages across the metamorphosis cycle, future research in this area can be focused on untangling the different antecedents and outcomes of each stage and how the firm's growth in one stage affects its growth in the later stages.

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APPENDIX-A: INFOSYS¹²**Metamorphosis of Infosys:**

Year of Incorporation	1981
Moved Headquarters to Bangalore	1982
First overseas client, First office in US (Fremont)	1987
Became a public limited company in India	1992
ISO 9001/TickIT Certification	1993
First Development Center (DC) in Bangalore (India)	1995
Attained SEI-CMM Level 4; 4 DCs in India & 3 offices overseas	1997
Listed on NASDAQ, SEI-CMM Level 5, First DC in US	1999
Crossed \$ 0.5 billion in revenues; DCs in 9 Indian cities & 6DCs overseas	2002
Setup Subsidiaries in China & Australia	2003
Setup Consulting division in US	2004
Crossed \$ 2 billion in revenues, Added to NASDAQ-100 Index	2006
Crossed \$ 3 billion in revenues, Over 80,000 employees	2007

Infosys – Matured Profile

- Provides consulting and IT services to clients globally
- As partners to conceptualize and realize technology driven business transformation initiatives.
- Over 80,000 employees worldwide
- Use a low-risk Global Delivery Model (GDM) to accelerate schedules with a high degree of time and cost predictability.

¹² Compiled from www.infosys.com ; Annual Reports – 2006, 2007

Locations

Corporate headquarters :	Bangalore, India
Worldwide Presence:	
Americas	Canada - Toronto, Calgary; Mexico - Monterrey; USA - Atlanta, Bellevue, Bridgewater, , Charlotte, Detroit, , Fremont, Houston, Lake Forest, Lisle, New York, Phoenix, Plano, Quincy, Reston
Asia-Pacific	Australia - Melbourne, Sydney; China - Beijing, Shanghai, Hong Kong; India - Bangalore, Bhubaneswar, Chandigarh, Chennai, Hyderabad, Jaipur, Mangalore, Mumbai, Mysore, New Delhi, Pune, Thiruvananthapuram; Japan - Tokyo; Mauritius; UAE – Sharjah
Europe	Belgium - Brussels, Czech Republic - Prague; Denmark - Copenhagen, Finland - Helsinki, France - Paris; Germany - Frankfurt, Stuttgart, Walldorf; Italy - Milano; Norway - Oslo; Spain - Madrid; Sweden - Stockholm, Switzerland – Zurich, Geneva; The Netherlands - Amsterdam; UK - London

Main officers of the company

Chairman of the Board and Chief Mentor:	Narayana N.R. Murthy
Co-Chairman of the Board of Directors:	Nandan M. Nilekani
Chief Executive Officer and Managing Director :	S. Gopalakrishnan

Exchange listings

USA : NASDAQ (INFY)

India : National Stock Exchange (INFY.NS), Mumbai Stock Exchange (INFY.BO) &
Bangalore Stock Exchange

Financial Summary (For the financial year ending March 31, 2007)

US GAAP		Indian GAAP	
Revenues :	\$ 3,090 million	Total Income :	Rs. 13,893 crore
Net Income after taxes :	\$ 850 million	Net profit after taxes :	Rs. 3,856 crore
Earnings per ADS :	\$ 1.53 (basic)	Earnings per share (Rs. 5) :	Rs. 69.11 (basic)
Total assets :	\$ 3,073 million	Total assets :	Rs.11,259 crore
Cash and cash equivalents :	\$ 1,409 million	Cash and cash equivalents :	Rs. 6,073 crore

APPENDIX-B: AES¹³**Metamorphosis of AES:**

Year of Incorporation :	1981
First cogeneration project deal closed	1983
Starts reporting profits	1985
First cogeneration plant begins operation	1986
Becomes largest independent producer of electric power in US	1988
Moves HQ to Arlington, VA	1989
AES goes public, stock begins trading on NASDAQ	1991
First international acquisition of two plants in Ireland	1992
Plants operational in 19 plants across 6 countries	1995
34 plants operational; gets listed on NYSE	1996
Enters S&P's 500	1998
AES selected for inclusion in Dow-Jones Utility Average	2001
Company moves from geographical structure to business lines	2003
Enters US wind market	2005
Expands wind farm operations to Europe	2006

AES – Matured Profile

- 121 generation plants in 28 countries on five continents
- Generating approximately 40,000 MW of power
- 13 utilities with capacity to serve 100 million people—and growing
- Over 73,000 GWh sold in 2006
- A global force of 32,000

¹³ www.aes.com ; “AES Corporation: Values, Culture and Operating Practices at a Global Power Company” By Arthur A. Thompson ; 2006 Annual Report of AES

Locations

Corporate headquarters :	Arlington, WA
Worldwide Presence :	
Africa:	Cameroon, Nigeria
Asia & Middle East:	China, India Srilanka, Jordan, Oman, Pakistan Qatar
North America:	Mexico, United States
Latin America:	Argentinian, Brazil, Chile, Colombia, Dominican Republic, El Salvador, Panama
Europe & CIS:	Bulgaria, Czech Republic, France, Hungary, Netherlands, Spain, Turkey, Ukraine, United Kingdom, Kazakhstan,

Main officers of the company

Chairman of the Board:	Richard Darman
President and Chief Executive Officer:	Paul Hanrahan
Co-founders	Roger Sant and Dennis Bakke

Exchange listings

USA : NASDAQ (AES), NYSE (AES)

Financial Summary *(For the financial year ending December 31, 2006)*

US GAAP	
Revenues :	\$ 12,299 million
Net Income after taxes :	\$ 896 million
Earnings per ADS :	\$ 0.43
Total assets :	\$ 31,163 million
Cash and cash equivalentents :	\$ 1,575 million