Most organizations find that their ability to identify and innovatively exploit opportunities decreases as they move from the entrepreneurial to the growth phase. However, the key to success in the highly competitive and dynamic environment that most companies presently operate in is to retain this ability. Therefore, companies need to adopt an entrepreneurial strategy — seeking competitive advantage through continuous innovation to effectively exploit identified opportunities — in order to sustain and grow under such circumstances.

For such a strategy to succeed, companies should develop an enabling economic and political ecosystem that does not impede small or large scale redeployment of resources in new ways towards creative, entrepreneurial ends. Companies have a range of options to choose from to achieve this objective. At the one end of this option spectrum is ‘focused entrepreneurship’ wherein specific innovation initiatives are created with the rest of the organization insulated from them. At the other end is a managerial approach that leads to the creation of ‘organization-wide entrepreneurship’. Entrepreneurship in such organizations is a shared value and drives managerial behaviour in conscious and subconscious ways and creates an entrepreneurial spirit organization-wide.

Many mature organizations, unwilling to alter the status quo, tend to create focused initiatives that are mandated to identify and exploit new opportunities. While such focused initiatives may stimulate innovation, the very nature of their design erects barriers between the existing organization and the innovation effort. This makes it difficult for the organizations to access and leverage the existing capability base and to integrate new initiatives back into operational activity.

Companies intent on developing and preserving entrepreneurship organization-wide, independent of their stage of growth, create an environment in which those who believe in the attractiveness of opportunities feel encouraged to pursue them. The top managements of such companies will design an organizational context conducive to autonomous generation of entrepreneurial initiatives, provide a sense of overall direction to these initiatives, and ensure that promising ventures receive necessary resources as they move through the uncertain development process wherein:

- money is neither offered nor seen as a primary motivator
- entrepreneurial contributions are rewarded with recognition and through provision of opportunities to engage in entrepreneurial activities on a bigger scale
- failure is considered normal and when failure occurs, the focus is on problem solving and learning from it rather than apportioning blame
- appropriate processes are used to capture knowledge created in the innovation process and routines developed to enable integration of such knowledge to create organizational rents.

The contrast between patterns of focused and organization-wide entrepreneurship runs across every element of the organization starting with its mission and covering strategy, structure, systems, processes, and people skills and attitude. Institutionalizing the elements of entrepreneurship is crucial to building a sustaining competitive organization in today’s business environment.
The competitive landscape in many industries today is marked by intense competition among existing players and the emergence of many focused competitors targeting specific segments of the market. In addition, the macro environment is characterized by rapid technological progress in many fields resulting in current solutions to customer problems becoming obsolete. In this scenario, any company that is not continually developing, acquiring, and adapting to new technological advances and to the changing business environment may be making, in the words of Merrifield (1993), the unintentional strategic decision to be out of business within a few years.

These changes have highlighted the need for companies to become more entrepreneurial (Dess, Lumpkin and McGee, 1999; Brazeal and Herbert, 1999) and companies around the globe are indeed attempting to foster entrepreneurship so that business opportunities are perceived and exploited (Sathe, 1988; Russell, 1999). Many companies have succeeded in their endeavour to do so and have developed new approaches to innovate and to create new businesses and achieve profitable growth. Change, innovation, and entrepreneurship describe what such successful companies do to compete (Zahra, 1991; Zahra, Kuratko and Jennings, 1999; Christensen and Raynor, 2003). At the same time, a larger question looming is the challenge of sustaining such changes, both in growing and mature organizations, particularly when the charismatic leadership that inspired the change disappears from the scene. It is an organizational paradox that, while the existing capabilities provide the basis for the current performance of a company, without renewal, they are likely to constrain the future ability to compete (Leonard-Barton, 1992). Institutionalizing entrepreneurship, therefore, is a major challenge for the companies in the current competitive scenario.

WHAT IS CORPORATE ENTREPRENEURSHIP?

The essence of entrepreneurship is innovation (Schumpeter, 1934; Drucker, 1985) leading to wealth creation (Khandwalla, 1987) and sustained growth of corporations (Miller, 1983; Naman and Selvin, 1993; Lumpkin and Dess, 1996; Ray and Ramachandran, 1996). The motive for entrepreneurship lies in the urge to identify the sources of existing and emerging customer dissatisfaction and developing solutions to eliminate them (Ramachandran, 2003).

There are three main phases in the entrepreneurial process: the perception and commitment to opportunity, the pursuit of opportunity, and de-commitment (Burgelman and Sayles, 1985). The first of these involving the process of identifying an opportunity is the toughest of all the phases. Though the recent years have witnessed a major research interest in opportunity identification (Shane, 2004; Timmons, 1999), except for a few frameworks developed by Kim and Mauborgne (2000), Ramachandran (2003), and Shane (2004), the research is essentially limited in this field.

Corporate Entrepreneurship (CE) is the process by which individuals inside organizations pursue opportunities without regard to the resources they currently control (Stevenson, Roberts and Grousbeck, 1998). An entrepreneurial manager links up discrete pieces of new technical knowledge that would provide a solution to a customer problem, matches this technical capability with the satisfaction of the market, and garners resources and skills needed to take the venture to the next stage. This process leads to the birth of new businesses and to the transformation of companies through a renewal of their key ideas (Guth and Ginsberg, 1990).

Within the realm of existing firms, CE encompasses three types of phenomena that may or may not be interrelated (Sharma and Chrisman, 1999). These are:

- the birth of new businesses within an existing firm
- the transformation of the existing firms through the renewal or reshaping of the key ideas on which they are built
- innovation.

Researchers have used a variety of labels to describe the first two phenomena. The creation of new businesses by firms through this process has been called internal corporate venturing (Zajac, Golden and Shortell, 1991), intrapreneurship (Pinchot, 1985) and so on. The process of transformation of corporations through a renewal of
their key ideas has been called strategic renewal (Guth and Ginsberg, 1990), strategic change, revival, and transformation (Schendel, 1990), organization renewal (Stopford and Baden-Fuller, 1994) and so on. Synthesizing these views, Sharma and Chrisman (1999) define CE as the process whereby an individual or a group of individuals, in association with an existing organization, create a new organization or instigate renewal or innovation within that organization.

Corporate entrepreneurial efforts that lead to the creation of new business organizations within the corporate organization are called corporate venturing. They may follow from or lead to innovations that exploit new markets or new product offerings or both. If corporate venturing activities result in the creation of semi-autonomous or autonomous organizational entities that reside outside the existing organizational domain, it is called external corporate venturing. If corporate venturing activities result in the creation of organizational entities that reside within an existing organizational domain, it is called internal corporate venturing.

Strategic renewal refers to the corporate entrepreneurial efforts that result in significant changes in an organization’s business or corporate level strategy or structure. These changes alter the pre-existing relationships within the organization or between the organization and its external environment and in most cases will involve some sort of innovation. Renewal activities reside within an existing organization and are not treated as new businesses by the organization.

As is evident from the above discussion, innovation is at the heart of entrepreneurship (Stevenson and Gumpert, 1985) and refers to the introduction of a new product, process, technology, system, technique, resource or capability to the firm or its markets (Covin and Miles, 1999) either independently or as part of an organizational rejuvenation process.

**BENEFITS OF CORPORATE ENTREPRENEURSHIP**

CE can make a significant difference to a company’s ability to compete (Zahra, Kuratko and Jennings, 1999). It can be used to improve competitive positioning and transform corporations, their markets, and industries when opportunities for value-creating innovations are developed and exploited (Miller, 1983; Khandwalla, 1987; Naman and Slevin, 1993; Lumpkin and Dess, 1996). A key benefit of CE may be to push companies to employ a range of strategies often in unique combinations (Dess, Lumpkin and McGee, 1999). By doing so, companies build layers of advantage by combining distinctive bases for competitive superiority (Hamel and Prahalad, 1989).

There have been many studies to substantiate the above-mentioned claims. CE can improve a company’s growth and profitability (Kanter, 1985; Brazeal, 1993; Zahra, 1991). The empirical evidence that CE improves performance by increasing the company’s proactiveness and willingness to take risks through development of new products, processes, and services as presented in Kuratko, Montagno and Hornsby (1990), and Lumpkin and Dess (1996) has been termed ‘compelling’ by Zahra, Nielson and Bogner (1999). A longitudinal study by Zahra and Covin (1995) provides the best evidence of a strong CE-performance relationship. Their study examined the longitudinal impact of CE on a financial performance index composed of both growth and profitability indicators. Using data from three separate samples and a total of 108 companies, they identified a positive and strengthening linkage between CE and subsequent financial performance. In recent years, academic and practitioner interest has shifted more to the process of nurturing CE since the debate has moved from whether or not CE benefits to the ways and means of maximizing benefits.

**FOSTERING ENTREPRENEURSHIP — HOW?**

Most organizations lose their entrepreneurial spirit once they cross the start-up phase. The transition from an entrepreneurial growth company to a ‘well-managed’ business is usually accompanied by a decreasing ability to identify and pursue opportunities. Initiatives and excitement give place to structure and systems. Organizations become blind to opportunities in the process.
Organizations become blind to opportunities in the process. Some of the practices that contribute to the successful management of resources inhibit the pursuit of opportunity (Stevenson and Jarillo-Mossi, 1986). In recent years, the assumptions about strategic and operational environments of the firm have been undergoing rapid changes and the mix of organizational resources necessary to keep pace with them will have to essentially be different. Most organizations, however, do not realize when and what changes are required and how to accomplish them especially when the managers do not feel compelled.

In order to enable the organization to constantly breathe an air of innovation and excitement, there is a need to develop an economic and political eco-structure that does not impede small-and large-scale redeployment of resources in new ways towards creative ends (Brazeal and Herbert, 1999). Therefore, firms must create systems that focus the attention of individual participants on innovation as an important and expected activity and direct group and firm behaviours towards entrepreneurial ends (Russell, 1999).

An entrepreneurial organization will institutionalize practices that establish an organizational environment in which innovation is considered an accepted and appropriate response to organizational problems (Russell, 1999). These practices build commitment and enthusiasm by creating a shared sense of purpose and meaning in the organization (Roberts, 1984). This ensures that all the firm’s technical and business skills are brought to bear to achieve its purpose (Anderson, 1992). This also helps in developing a culture that encourages creativity and creates a passion for innovation in the firm. Culture is an important determinant influencing individuals’ willingness to accept entrepreneurial change (Floyd and Wolridge, 1999) and, as Barney (1986, 1991) emphasizes, organizational culture can be a source of sustained competitive advantage.

In essence, organizations must learn to think and act in a dynamic equilibrium. This is a challenge but they have a range of options to choose from depending on the size, competition, and industry structure to achieve entrepreneurial excellence. At one end of this spectrum lies the focused initiatives covering specific parts of the organization and at the other, initiatives that attempt to breathe entrepreneurship across the organization. The former is called ‘surface entrepreneurship’ and the latter ‘deep entrepreneurship’ (Sathe, 1988).

**Focused Entrepreneurship**

Organizations that are ‘mature’ in a number of aspects such as product-market strategy, people’s attitudes, and structure and control systems would most often not like to upset their existing applecart in any way while exploring new growth avenues. Since their ability to identify and exploit opportunities has declined, they attempt to promote entrepreneurship by mandating it as a corporate objective. In some cases, entrepreneurship is ‘injected’ into the organization through the appointment of one or more ‘proven’ independent entrepreneurs. In others, someone from within who may have shown some of the attributes of entrepreneurship such as initiative, innovativeness, and change leadership is chosen to lead the effort. They develop new products/services and often lead their implementation insulated from the restrictive approach of the rest of the organization. Such attempts are often accompanied by the use of steep financial incentives to match the potential rewards of independent entrepreneurship.

In this process, the entire organization does not become entrepreneurial and the existing product-market strategy is not threatened, but, it is able to add new products/services to its matured portfolio. This is a low risk approach considering that changing the ‘chemistry’ of an organization is not easy. Also, this can be a prelude to undertaking an organization-wide initiative that changes the ‘chemistry’ of the firm. However, this approach has its own limitations.

**Challenges with Focused Initiatives**

Entrepreneurship needs passionate managers who are excited about championing entrepreneurial initiatives. Identification of such individuals may not always be automatic. Promoting entrepreneurship through a mandating process results in the appointment of managers into the role of an entrepreneur — a role for which they may be unsuited. Such managers may follow a mechan-
ical or a superficial search process in pursuit of presumed opportunities. While they may be good at preparing an attractive business plan, the quality of the basic idea itself may be questionable if the team lacks entrepreneurial qualities. This is particularly so if the environmental characteristics are not conducive (Russell, 1999). Some organizations have gone to the extent of literally recruiting start-up entrepreneurs. However, appointment of independent entrepreneurs in the role of corporate entrepreneurs leads to difficulties as they neither have the patience nor the experience to navigate the political and cultural realities of the organizations. It is useful to remember that the perception and exploitation of opportunities for innovation go beyond the efforts of one key manager (Miller, 1983). In short, it is difficult to sustain such 'injections' of entrepreneurship.

While the use of steep financial incentives creates perceptions of inequity that could even result in the sabotage of the entrepreneurial initiative, use of existing financial control systems to monitor entrepreneurial ventures leads to frequent intervention and misguided direction during the progress of these ventures (Sathe, 1989). The root cause of these difficulties is the use of the classical approach of setting objectives, motivating people to accomplish them, and monitoring and controlling such accomplishment. This approach works for activities for which expected results and the process to achieve them are well known. By its very nature, entrepreneurial activity seldom fits this mould.

However, there are evidences of variations of this approach existing that actually encourage small experimental initiatives by managers who always demonstrate entrepreneurial qualities such as initiatives, idea generation, and networking. Stopford and Baden-Fuller (1994) found that it is possible for companies to shed past behaviours and adopt policies fostering entrepreneurship and accumulate innovative resource bundles that provide a platform on which industry leadership can be built. The path to be adopted begins with individual entrepreneurship by some key managers which broadens into renewal of the entire organization. The resources and capabilities created in the process of renewal provide a platform on which far-reaching industry changes can be built.

It is pertinent to discuss here some parallel organizational forms such as new venture divisions and skunk works that companies have used to stimulate entrepreneurial behaviour. We agree with the view of Floyd and Wooldridge (1999), derived from their observation of one of these forms in practice, that while these parallel forms may stimulate initiative, by their very nature, the design erects barriers between the on-going organization and the renewal process. This makes it more difficult to access and leverage the existing capability base and to integrate new initiatives back into operational activity. The mixed results obtained by Hindustan Lever Limited under its Project Millennium initiative in the beginning of this century are a case in point.

**Organization-wide Entrepreneurship**

At the other end of the spectrum are the organizations that whole-heartedly support entrepreneurial initiatives of any kind such as a small improvement in products or processes to totally unrelated diversification ideas. Most often, such companies start driving entrepreneurial initiatives while the organization is still young without the rigidities of a mature organization. Of course, that does not mean that a mature organization cannot imbibe the spirit of entrepreneurship right across the organization. Depending on the circumstances, even mature organizations can become flexible.

Entrepreneurship in such companies is a shared value and drives managerial behaviour in conscious and subconscious ways. Sathe (1988) characterized such entrepreneurship as ‘deep entrepreneurship’ and identified many of its key attributes which have been described below. Over the years, variations of the same have appeared but the essential features have remained the same.

- Socialized into an entrepreneurial culture, managers who are so inclined seek out opportunities to make their mark. Those who succeed move into bigger jobs where they undertake such activities in a larger scale. Opportunities are perceived and pursued by such entrepreneurs on the basis of an in-depth knowledge of the industry and personal
conviction rather than through superficial analysis and mechanical selection.

- Money is neither offered nor seen as a primary motivator. Entrepreneurial contributions are rewarded with recognition through playing up and promoting company’s success stories and champions’ enhanced status and the opportunity to engage in entrepreneurial activity on a bigger scale. For instance, very often, idea champions get an opportunity to drive the new project into a new business division. Moreover, failure is considered normal for such activity. Even when failure occurs, the focus is on problem solving and learning from failure rather than on apportioning blame. Therefore, managers perceive low personal/career risk.

- Although companies displaying the pattern of deep entrepreneurship use state-of-the-art analytical techniques, their risk-taking philosophy is rooted not in these techniques or their judgement but in their willingness to bet on entrepreneurs. When faced with difficult decisions regarding opportunities, it is the conviction of the person engaged in entrepreneurial activity that carries the day.

- These companies normally have excellent information and control systems and the top management keeps itself informed of the progress of each venture; great emphasis is placed on the quality and integrity of information supplied. Ventures are frequently reviewed with the purpose of challenging the entrepreneur’s thinking to help uncover blind spots and not to issue edicts about the venture. Along with this, a certain amount of insubordination is tolerated provided it is within reasonable bounds; results indicate that it is justified in achieving the results. The management is also very careful in cutting budgets and believes that such cuts can both help or harm a venture.

- One of the most difficult decisions in such ventures is to decide when to pull the plug and bury the project or at least send it to cold storage when faced with uncertainties. In reality, most projects do not show sudden unattractiveness; since the quality of assumptions is judgemental, a decision to discontinue, which is always painful, is difficult. The challenge is in building a ‘detached passion’; though it sounds like an oxymoron, in reality, the manager should feel totally passionate about the project when it is pursued but should be able to agree with an objective evaluation and discard the project, if required. Royer (2003) found the need to have exit champions to kill bad projects since many managers have difficulty in giving up a project. One reason for this is lack of another project with the same individual. Hence, exit champions need to have both the temperament and the credibility to question the prevailing belief. Most often, they demand hard data on viability and are able to make a forceful case for killing bad projects.

The contrast between the patterns of focused and organization-wide deep entrepreneurship runs across every element of the organization starting with its mission and covering strategy, structure, systems, processes, and people skills and attitude. New knowledge creation is normal in such organizations. They allow new organizational units to form and disband without fanfare or prejudice and provide for flexible boundaries among organizational sub-units (Stevenson and Jarillo, 1990).

### Developing Organization-wide Entrepreneurship

Companies interested in developing and preserving entrepreneurship should strive to create a corporate environment in which those who believe in the attractiveness of opportunities feel encouraged to pursue them (Pinchot, 1985). In such an environment, a process of self-selection takes place whereby entrepreneurs ‘bubble up’ to the surface (Sathe, 1989). Since entrepreneurial activity involves high levels of uncertainty, management under such conditions requires rapid information processing abilities and high levels of trust in entrepreneurial individuals and teams. In this process, management ensures high level of interaction between the individual, the organization, and the external environment at all levels. The purpose is to identify areas of inefficiencies and ineffectiveness and find new solutions to customer needs. Innovations may be at any link on the value chain and not limited to new products and services in a traditional sense (Galbraith, 1973; Kanter, 1977).
Managements interested in promoting entrepreneurship at lower levels must be willing and able to appreciate the perceptions and judgements of people at those levels. The two major challenges here are related to ensuring that the freedom granted is not misused and that the risks inherent in entrepreneurial activity are contained.

McGrath and MacMillan (2000) have identified four broad sets of practices that go into creating an organization focused on identifying and exploiting opportunities:

- Practices that set the right tone for innovation which are climate-setting practices like disproportionate allocation of attention, resources, and talent to this activity.
- Practices that orchestrate the processes of seeking and realizing opportunities to grow the business that include defining the ballpark of innovation activities the firm would undertake and instilling the discipline of parsimony so that investments and costs are minimized until an upside potential is demonstrated.
- Hands-on practices that get the top management actively involved and require the institution of analytical processes to identify opportunities that the firm is uniquely positioned to exploit.
- A process of managing failures which sets the standard for future commitment to such initiatives and involves conducting constructive post-mortems and recouping benefits from failed projects for use elsewhere.

The challenges of containing risks of the entrepreneurial activity are met through constructive control mechanisms that help avoid irresponsible behaviour. To promote entrepreneurship, individuals must be allowed the freedom to think and act in unconventional ways.

CE activities create new knowledge that enhances the company’s competencies and results in the development of new ones. This knowledge is of three types (Zahra, Nielsen and Bogner, 1999). The first type is specific to the present line of activities of the company and is the key to future product refinements and product line extensions. Such knowledge is predominantly technical and is seldom sufficient for a company to develop a sustainable competitive advantage. The second type of knowledge is integrative in nature. It brings together many elements and is firm-specific in nature. This interlinking of existing competencies in idiosyncratic ways can frustrate the rivals’ efforts aimed at imitating the firm’s products thus giving the firm a competitive advantage (Itami, 1987). The third type of knowledge incorporates new ways of exploiting the technical and integrative knowledge of the firm and can lead to the commercialization of new products and services (Zahra, Nash and Bickford, 1995).

Creating value from the wide range of new knowledge generated in CE activities through the introduction of a new product, process, technology, system, technique, resource or capability in the firm or its markets requires management of the process of articulating, focusing, sharing, and transferring this knowledge. Lynn and Akgun (1998) find that a learning-based innovation strategy is appropriate for managing the process of creation and dissemination of knowledge generated through innovation efforts so that it can be used to enhance and develop capabilities.

INSTITUTIONALIZING ENTREPRENEURSHIP

Some of the principles that the organizations follow to develop and sustain entrepreneurship are the following:
• selective rotation of talented managers to expose them to different business territories that can stimulate perception of new opportunities
• resource allocation at various stages
• clear communication by the leadership about its long-term, sustained commitment to entrepreneurship
• learning from experiments and bet on people capabilities because not all ideas will be winners.

It is important for organizations to focus their energies on encouraging people who have displayed entrepreneurial qualities in corporate or other contexts to lead initiatives rather than trying to test the level of entrepreneurship in people using psychometric tests.

The quality of leadership represented by the top management plays a very critical role in driving innovation in firms and in mastering its dynamics (Kipp, 2001; Kuczmarski, 1998; Schoen, 1969; Utterback, 1994; Van De Ven, 1986). Firm success is determined by the collective leadership of top management teams (Reich, 1987) with skills complementing each other (Timmons, 1979).

The top management which believes that CE can make a significant difference in a company’s ability to compete and achieve successful performance will pursue an entrepreneurial strategy. This represents a policy decision to seek competitive advantage through innovation on a sustained basis (Mintzberg, 1983) and will involve:

• designing an organizational context conducive to the autonomous generation of entrepreneurial initiatives by creation of structures and a culture that facilitates entrepreneurial behaviour
• providing a sense of overall direction for innovation initiatives through an entrepreneurial vision
• ensuring that promising ventures receive necessary resources as they move through the uncertain development process.

A firm intent on creating a CE enabling ecosystem will not only adopt an entrepreneurial strategy but also create an entrepreneurial organization that considers innovation as an accepted and appropriate response to organizational problems. It will also develop appropriate practices to manage the process of creation and dissemination of knowledge generated through innovation efforts and operate effectively as a team in order to fulfil its role of recognizing the value and opportunities presented by specialized knowledge. Such an ecosystem will help the firm reap benefits in terms of capability development and enhancement and the development of new products, services, and processes that enables it to compete effectively in the marketplace and produce superior performance. A top management team that adopts an entrepreneurial strategy and creates a milieu in the firm such that this strategy can be executed, displays entrepreneurial leadership (Devarajan, Ramachandran and Ramnarayan, 2003).

Thus, the role of the top management team in firms that pursue an entrepreneurial strategy is to build an organizational setting that stimulates exchange of information between individuals and develop a culture that encourages innovation. The team also fulfils the role of recognizing the value and opportunities presented by specialized knowledge and integrating it to create rents (Alvarez and Busenitz, 2001).

The top management team, in the context of an entrepreneurial organization, must function in such a way that it solves problems, particularly in relation to innovation, in a well-honed, effortless, and effective manner so that innovation activity thrives in the firm and the value of specialized knowledge created is recognized and integrated to create rents. Deftness is a quality in a group which permits such functioning (McGrath, MacMillan and Venkataraman, 1995). For a top management team to perform with deftness, clear and shared goals and roles must exist, communication must be accurate, sharing of information should be rapid, constructive confrontation need to be encouraged, and belief and trust in each other and in the team should be built.

CONCLUSION

The highly competitive and dynamic environment prevalent in most industries is forcing many companies to adopt an entrepreneurial strategy which is seeking
competitive advantage through innovation on a sustained basis. The current debate is more on ‘how’ of entrepreneurship and we have seen that there are many possible routes to follow. Essentially, this requires the top management team to create an organizational setting that focuses the attention of individual participants on innovation as an important and expected activity and enables and directs group and firm behaviours towards entrepreneurial ends. The team will also need to use appropriate processes to capture knowledge created in the innovation process and operate in a manner that enables integration of knowledge to create rents. Institutionalizing elements of entrepreneurship is crucial for sustaining competitive organizations.

Annexure 1: Firm A

The New Ventures Fund of this engineering and manufacturing company was created to help any employee with a potentially profitable idea to obtain funding outside normal budgetary channels in order to pursue it. The hallmark of the fund is its informality. A short note describing the idea, its potential, and initial funding requirements is all that is needed to obtain funding. Each operating unit contributes 0.5 per cent of its revenue to the fund creating a modest incentive to reward those coming up with innovative ideas. The emphasis is on ‘new’. Projects which are extensions of existing product lines or other natural evolutions of current work are not funded.

Annexure 2: Firm B

The objective of the New Products Centre (NPC) of this engineering firm is to use the company’s technology to develop new products or markets that its internal clients can use to grow their existing businesses. It balances autonomy — the ability to explore new ideas with relatively little interference — with accountability to clients and client organizations. One of the secrets of NPC’s success is that it deliberately encourages and even forces interaction among staffers in diverse disciplines and between staff and external customers.

Annexure 3: Firm C

The New Venture Organization (NVO) of this firm is a formalized structure to identify, develop, and obtain sponsorship for opportunistic ideas that do not fit into their originating organization. Proposals go through an individual initiative stage, a seed financing stage, and, finally, an implementation and commercialization stage.

A network of 20 ‘innovation’ offices is located throughout the corporation. Any employee can approach an innovation office and receive support, guidance, and access to a network of internal consultants who can advise him/her on the merit of the idea. The employee can seek sponsorship for ideas that survive this stage within the existing organizations of the company.

If an existing business does not support the idea, it is presented to the business development arm of the ‘new opportunities development’ (NOD), an organization that guides people’s efforts and enhances the likelihood of promising ideas becoming significant new businesses. NOD provides promising projects seed money to cover anything — prototypes, market research or design work. Funds are mostly used for market research that determines how to optimize a core innovation in the proposal. Before a full business plan is written, the proposal is again run through the existing organizations.

The third and the final tier is the Venture Board which reviews proposals and provides staged financing from its investment pool. For the venture manager, there are opportunities for special reward including bonuses. However, if the venture fails, there is no assurance that the manager will have a job in the corporation although every attempt is made to find a job comparable to the one he or she left.

Annexure 4: Amtrex

Amtrex was transformed from a small time air-conditioner manufacturer with a turnover of Rs. 60 million in 1986 to a high quality world-class manufacturer of air-conditioners with a turnover of Rs. 2 billion by the turn of the century through entrepreneurial initiatives of the management team. The company created cross-functional innovation teams which regularly met and brainstormed on new possibilities for adding further value to customers. This resulted in improved efficiency across the value chain besides creating a new hope and excitement across the organization. This process led to the development of a new product Nidra. This novel product, first of its kind in the world, not only made sleeping in air-conditioned rooms much more comfortable but also helped customers reduce their power bill.

The origin of Nidra is interesting. It was in one of the innovation committee meetings that someone asked an innocent question, “Why do we need a blanket to sleep in an air-conditioned room but do not feel the need when we sit in an air-conditioned room for much longer hours?” After a series of discussions that followed, the committee members finally concluded that the heat generated by the body due to metabolic activities comes down during sleep. Amtrex, therefore, designed a fuzzy logic system that helped customers to programme their air-conditioners to generate cool air according to their sleeping hours.

The company rewarded all those who came up with interesting ideas.
Annexure 5: Wipro Ltd.

Though more organized and structured attempts to foster innovation in every aspect of the company has started only a few years ago, Wipro Ltd. has a long history of innovation and intrapreneurship. It is an enigma how a traditional vegetable oil company incubated so many successful business ventures over the years. Wipro's first brush with corporate entrepreneurship could be traced way back to late seventies when it started its information technology (IT) business. In 1977-78, foreign corporations like Coca Cola and IBM pulled out of India due to the unfriendly policies of the Government of India headed by the then Prime Minister Morarji Desai. Azim Premji, Chairman and Managing Director of Wipro Ltd., immediately recognized that the exodus of companies like IBM would create a market for the Indian vendors of computers and software.

Wipro entered the infotech area and tasted early success in its R&D efforts. In 1980, an energetic, committed team of 15 professional R&D and marketing managers was brought together in a small laboratory at the Indian Institute of Science, Bangalore. The team developed the first Indian minicomputer based on Intel 8086 chip. Wipro launched its infotech business with this minicomputer to capitalize on the first wave of IT boom. In 1983, Wipro Infotech Limited and Wipro Systems Limited were formed as two separate companies focusing on computer architecture and software and software product development respectively. A year later, the company released Wipro 456, a spreadsheet program similar to Lotus 123, a top-seller in the US at the time. This was followed by Wipro's first personal computer in 1986 powered by Intel 386 microprocessor.

Protected by high tariffs, Wipro Infotech focused on the Indian market and continued to design and develop mini and personal computers fitted with operating systems and application softwares primarily for corporate clients. The company acquired licenses from some of the global hardware and software giants such as Intel for microprocessor, IBM for Unix, and Sun Microsystems for servers. It developed a 100-member strong R&D team to assimilate the collaborator's technology and develop architecture suited to the Indian market.

However, when the Indian government headed by Narasimha Rao opened the Indian economy in 1991, Wipro's hardware and software were no longer protected by 325 per cent duties. The quality of its hardware and software products was not good enough to take on the might of global giants such as IBM, Compaq, Apple Computers, and Microsoft. In a smart move, Wipro put its battalion of software programmers to work for the corporations that were streaming into India. As a result, the software business got its first real impetus for export. The focus shifted from product software to service software.

The real coup de grace was, however, the way Wipro redeployed the 100-member strong R&D team, a highly competent but idle resource, in the changed circumstances. The team suddenly faced a situation where its expertise was no longer required by any other division of Wipro. It was forced to look outward. It was in this context that the concept of 'lab on hire' was conceived by Dr. Sridhar Mitta, the then R&D Chief at Wipro, to leverage the technology competencies developed over one decade by providing R&D services to erstwhile technology partners like Intel, Sun, Motorola, and Cisco. By virtue of working together on many an occasion in the eighties, this group had the understanding of the partner's technology platform, knowledge on networking, and design processes. This enabled the company to start the 'lab on hire' business and offer the R&D services to companies like Intel at a much lower cost. The concept was an instantaneous success as it created more value for customers in the way of reducing R&D cost and capture more value for the company by putting to use an idling resource group profitably.

This concept was further extended to give rise to the Offshore Development Centre which made offshore sourcing a truly great value proposition. Earlier, the technology companies modelled their R&D centres on a fixed instead of variable cost structure. This model often restricted a company's ability to bring a product to market at the lowest cost and shortest time possible because of the static nature of headcounts and budgets. Moreover, with the large amount of testing and verification that were required to bring a technology to market, companies with a static R&D model would very likely miss the opportunity that could be gained when there was a boom. By being at the forefront of outsourced R&D, Wipro could offer its technology customers the chance to be the first to catch opportunities when a boom hit.

Over the years, the R&D services business grew rapidly and became one of the main revenue earners for Wipro. Later, this business was renamed as Technology Solutions Vertical with over an 8,000-member strong team working for a large number of clients that included the who's who of the global telecommunication industry and contributing close to one quarter of Wipro's revenue.

Pushing the offshore idea a little further, Wipro hit upon another business opportunity to manage the customer's IT infrastructure through the remote infrastructure service model. The services were delivered from an offsite location using high availability and secure infrastructure and industry certified expert skills. The infrastructure service was delivered to the global clients through the Global Command Centre (GCC) located in Bangalore.

In the last two decades, there were many such cases where Wipro successfully deployed its competencies developed to support an existing business in creating new business opportunities. Another most recent example of corporate entrepreneurship at work in Wipro was how the internal quality initiatives were translated into a quality consulting practice with over 150 ‘customer touch’ Six Sigma projects under way. The business transformation practice would engage in such projects over double that number in the future combined with consultancy in other quality models such as PCMM and CMMI. The internal quality measurements had set the benchmark for other companies and the company took a conscious decision to migrate the benefits to customers’ projects and processes making a viable business in the process.

Leveraging the lessons from its internal quality initiatives, the company developed a copyrighted Six Sigma for software methodologies. Wipro was increasingly getting Quality Consulting assignments where it was drawing out the blueprint for many of its customer organizations to improve their quality standards. This initiative began when Wipro customers wanted help from the company to improve their quality. In

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the process of catering to these occasional demands of their customers, Wipro managers hit upon a very lucrative business opportunity that could leverage their existing competencies.

Though the Quality Consulting business of Wipro started in 2002 and is just a little over three years old, the division is fast emerging as a key contributor to the company’s revenues. Within the first eight months of its operation, the division contributed $1 million. During the previous fiscal, this increased to $3.5 million and is on track to double its business to $7 million in the current fiscal. The company was offering Quality Consulting in the BFSI and manufacturing sectors in the US and additionally to captive BPO centres in India. So far, more than a dozen customers received the expertise of the Quality Consulting division. From inception till date, this division had about 30-35 engagements and it fine-tuned various processes for its clients. These included processes like software testing before roll-out to enable clients to move towards CMM Level 5 or Six Sigma. Wipro’s quality team is nearly 150-strong. Of this, nearly 55-60 people are purely for the Quality Consulting business.

Apart from spawning many such new businesses, Wipro was an incubator for a large number of very successful corporate spin-outs such as Mindtree Consulting started by Ashok Soota and Subroto Bagchi among others, e4e Labs started by Dr. Sridhar Mitra, Exodus started by K B Chandrasekhar, Priro started by Ashok Narasimhan and many others. The owner-driven meritocracy and a very open organization in Wipro nurtured an entrepreneurial culture and allowed free space for innovation to take root and flourish. While some of the ideas got the support of the top management and were taken to the market, some others did not get the blessings of the powers that be resulting in spin-outs. However, the moot point is that Wipro always remained a grooming ground for entrepreneurs.

In recent years, after the exodus of some top professionals from Wipro in the pursuit of their entrepreneurial ambitions, the company has put together a more structured innovation programme and methodology to take the most outstanding ideas to market on an ongoing basis. It formed the ‘Innovation Council’ in late 2000 to build intellectual property, new products and services, and take the most outstanding ideas to market on an ongoing basis. It formed the ‘Innovation Council’ in late 2000 to build intellectual property, new products and services, and take the most outstanding ideas to market. As the company has been attempting to move up the value ladder, there is a greater need for bright innovative ideas to flow more frequently. What has been embedded in Wipro culture all these years is brought to surface in the form of a slogan: “Innovation is Wipro: Wipro is Innovation.” The vision is clear — to make Wipro habitually innovative, a place where thousand flowers bloom. The company is trying to manage the duality of simultaneous existence of high degree of individual freedom conducive for creativity and robust organizational processes to direct the innovation for creation of higher shareholder value. It puts together an innovation programme towards achieving this vision. At the root of this programme lies the repeated individual and collective attempts to find answers to some critical questions such as:

• Are we attracting the best talent and keeping the talent challenged and contemporary?
• Are we creating higher value for our customers? Are we creating relatively higher value?
• Is creating value for customers sufficient to create value for other stakeholders and the larger community?
• How do we leverage our learnings within and without the organization?
• Are we doing low-risk experimenting to filter out ‘good’ ideas from the truly outstanding ones?
• Are we taking positions on technology developments and building skills to anticipate tomorrow?
• In the process of work within the organization, are we continuously eliminating redundancy and non-value adds?
• Are we capturing the benefits of small companies even as we grow rapidly?

The Innovation Council evaluates proposals and provides internal funding for the best ones. The resulting projects develop intellectual property that can be licensed to customers and integrated into their products. The Innovation Council is made up of senior managers but the ideas are gathered ‘bottom-up.’ It is the engineers and project managers immersed in the technical issues who generate the creative, long-term ideas. The Council’s job is to choose the best ones and sponsor the same based on its analysis of how the resulting technologies and components will, in turn, provide value to its customers. Wipro’s approach to innovation is pragmatic — a structured process that involves sifting through ideas, identifying themes, and setting clear goals. The innovation would go through various stages of approval and commitments of funds. An idea has to meet certain goal-sets before going through the next stage of support. Being a very structured process, this leads to higher hit rates and cost effectiveness. There is also ‘financial measurement system’ to enable the Wipro staff share the gains generated by their ideas.

Premji has always put emphasis on making Wipro a dynamic, evolving entity continuously innovating and actively seeking change. There has been a constant focus on benchmarking and upgrading in Wipro. It keenly follows companies like Hindustan Lever, Infosys, and GE and tries to adopt the best practices. Wipro continuously compares itself with those considered best on various functions. As explained by Premji,2 “You may decide that Infosys is the best on a campus outlook, that Hindustan Lever is best on the quality of the induction of management trainees, that Sun Micro is best in terms of aggressive selling. You try to understand the process and see how you can bridge the gap or exceed the gap. This is a continuous process. We have councils consisting of all our financial, human resources, quality, and marketing people. They typically meet four or five times a year, one or two days each time, and a significant part of the agenda is sharing what the other is better at so that improvement of one division is quickly transferred to the rest of the company. ...We are using processes like Six Sigma to keep on fine-tuning, reducing cost, increasing productivity, and maintaining and improving consistency in the quality of our execution.”

This trait of Wipro to continuously explore new ideas and seek change proactively helps the company transform itself several times to face the future better by warding of any threats and capitalizing on the emerging opportunities.

1 Wipro’s Annual Report, 2003-04.
REFERENCES


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