ADDENDUM

Appendix A: Background Study

Knowledge itself is power

— Francis Bacon

No system can survive forever without adaptation and improvement. The second law of Thermodynamics states that chaos (entropy) is always on the increase, and so to survive the onslaught, we must adapt or die. Never has this been truer for business and technology than in present times.

Few people realise the extent to which the information age will change society including everything we see, hear and experience. The advent of complete communication (access to any information, any time, anywhere) could ultimately mean the unification of the human species into a Global Brain.[1] It will therefore become highly important for every human being to add value in his/her own domain, and not duplicate what others have done already. In reaching this goal, every person needs to think new and creatively, to find some place where others have yet to dwell. The information age will give birth to the proliferation of innovation as a highly successful business strategy.

A.1 **Power Shift** (The future as seen by Toffler[2])

Power grows out of the barrel of a gun

— Mao Tse-tung

Throughout human development, power and the accumulation thereof, has driven people into countless battles and skirmishes. Power and the struggle to find it serves as a motivator to people typically involved in managing, leading an organisation or process.[3] These power players rely on their position and other means to enforce their will on other people.

However, power does not primarily flow from position in an organisation, but finds its roots much deeper. Violence and money are two of the most common sources of power. They can be used to reward, or even punish anyone for good or bad performances. These power sources when used as threats can even become more versatile than direct reward or punishment implementation. One will always see these sources of power in a power player, no matter where or how he/she uses that power. To understand where power originates within such a person, these sources will serve as beacons.

In traditionally non-innovative organisations, entrepreneurs battle against bureaucratic power structures ingrained in the organisation. This can often lead to entrepreneurs avoiding new developments and becoming 'zombies' in their work. When this happens, organisations fall into a pattern of reaction to competition, rather than proactive development. In such surroundings almost all-new ideas are scorned and killed before they have the slightest chance for success. It is therefore not surprising that entrepreneurs either leave such organisations or simply get lost in the woodwork.

For entrepreneurs, salvation might lie in Toffler's words.[2] In his book 'Power Shift', Toffler describes how knowledge and information will become, and is already, one of the base sources of power. Toffler states that three power sources exist: *violence*, *money* and *knowledge*, and they are the basis for the most potent power available. These power sources vary in strength as they vary in versatility. Violence is less powerful than money, which is less powerful than knowledge. By wielding one a certain amount of power is gained, but by combining all three the greatest advantage is possible.

The quality of power lies in its versatility. Violence for instance, is the least versatile type of power source and has therefore the lowest quality. Violence is only good for one thing, and that is punishment. Punishment and the threat of punishment can only serve to alienate and scare people into doing something, never building loyalty or trust. Although violence is one of the oldest forms of power, it is the least effective type.

A vast improvement on violence happened when the bartering system started between humans. If someone had an item someone else wanted, he/she had direct power without turning to violence. Today money plays a highly interesting role in our society. One advantage money has over violence, is the ability to reward as well as punish in the course of wielding the power source. Another advantage is the threat of withholding money, as is the case with employees fearing for their jobs. In essence they do not fear for losing their jobs but rather fear losing the income. The 'boss' therefore has direct power over his/her employees by wielding the sceptre namely money.

With the development of personal computers and access to the Internet complete information freedom is fast becoming a reality. Many organisations and their directors are slow to realise the impact this may have on them. In Toffler's book the most versatile and potent source of power is identified as information. And it is this information that will be responsible for the turnaround in conventional business of the twentieth century.

In the old 'smoke stack' economy where managers were tough and employees did what they were told, the persons in power positions sacredly guarded information. This information about markets, technology, competitors and other factors is now slowly becoming available to employees and outside competitors. And they are suddenly demanding answers. For example:

> *Today no longer is a doctor the revered person they used to be a few years back, for patients can read about any disease or symptoms on the internet, or watch television educational programmes. This enables them to sometimes know even more about a specific disease, than their local physician. The information gathered by the patient therefore reduces the power of the physician and can have negative effects on his/her credibility. This may be one of the reasons for the increase in malpractice suits filed against doctors in the United States of America.*

In the same way every industry is being affected by the spread of information previously unobtainable.

The impact of a power shift, from money and violence towards knowledge and intelligence, can radically influence the way organisations operate, and even threaten their very existence. The power of knowledge enables absolutely any person to wield enormous power. For instance a patent or organisational specific competence can sometimes reside in a single person. This person therefore has enormous power for if he/she leaves the organisation the competence leaves as well.

Other pure information based power sprouts from such mundane surroundings as the local supermarket. Currently all consumer buying is monitored and fed into a computer on site, transforming this data into useful information for shop owners. Increasingly brand name product manufacturers have to ask supermarkets for information on consumer buying, to find trends and preferences in the market. The mere monitoring of shoppers thus becomes valuable information, capable of destroying or building new and old retail products.

A power shift does not only influence organisations, but the total way money and wealth is created. This new system of wealth creation is totally dependent on information and information flow. We can see this in the massive explosion of the World Wide Web and how this information flow is changing the way every human obtains information. Today it is not strange to rely on the Internet for up to date local and international news, rather than television or radio. And this information is increasingly becoming free of charge as organisations realise the power of informing their customers and suppliers of developments.

Twelve ways identified by Toffler how tomorrow's wealth may be created are:

1. The new accelerated system for wealth creation is increasingly dependent on the exchange of data, information and knowledge. It is 'super-symbolic'. No knowledge exchanged; no new wealth created.
2. The new system goes beyond mass production to flexible, customised or 'de-massified' production. Because of the new information technologies, it is able to turn out short runs of highly varied, even customised products at costs approaching those of mass production.
3. Conventional factors of production — land, labour, raw materials, and capital — become less important as they are substituted by symbolic knowledge.
4. Instead of coins or paper money, electronic information becomes the true medium of exchange. Capital becomes extremely fluid, so that huge pools of it can be assembled and dispersed overnight.
5. Goods and services are modularised and configured into systems, which require a multiplication and constant revision of standards. This leads to wars for control of the information on which standards are based.
6. Small (de-massified) work units, temporary or 'ad-hocratic' teams, increasingly complex business alliances and consortia replace slow-moving bureaucracies. Hierarchy is flattened or eliminated to speed up decision making. The bureaucratic organisation of knowledge is replaced by free-flow information systems.
7. The number and variety of organisational units multiply. The more such units, the more transactions among them, and therefore more information must be generated and communicated.
8. Workers become less and less interchangeable. Industrial workers in the past owned few of the tools of production. Today the most powerful wealth-amplifying tools are the symbols inside the workers' heads. Workers therefore own a critical, often irreplaceable, share of the 'means of production'.
9. The new hero is no longer a blue-collar worker, a financier or a manager, but the **innovator** (whether inside or outside a large organisation), who combines imaginative knowledge with action.
10. Wealth creation is increasingly recognised to be a circular process, with waste recycled into inputs for the next cycle of production. This method presupposes computerised monitoring and ever-deeper levels of scientific and environmental knowledge.
11. Producer and consumer, divorced by the industrial revolution, are reunited in the cycle of wealth creation, with the customer contributing not just money, but market and design information vital for the production process. Buyer and supplier share data, information and knowledge. Someday, customers may also push buttons that activate remote production processes. Consumer and producer fuse into a 'prosumer'.
12. The new wealth creation system is both local and global. Powerful micro-technologies make it possible to do locally what previously could be done economically only on a national scale. Simultaneously, many functions spill over.

The above ninth wealth creation statement is quite interesting and here Toffler states that current workers, managers, and 'bean-counters' will not be the creators of future wealth. It will be the innovators, capable of truly new products and innovation that will prosper in the future. This brings us to the question of innovation and the 'where' and 'how to' for the future.

What does a power shift have to do with innovation, one might ask? Yet the answer is apparent. Should the nature of national and international business change, innovation could become one of the cornerstones of such a change. When change happens, a lot of turbulence occurs forcing people to think new and make sure they are still on the right path. What better path to be on than innovation, which flourishes on change and discontinuity. Innovation can only occur through change, and therefore innovation will be the best vehicle to steer through the turmoil of Toffler's proposed 'Power Shift'.

As turmoil and turbulence increase throughout the world the old 'smokestack' organisations, which were isolated from small competitors by economies of scale, face the real possibility of dying. Information and new manufacturing procedures enable small start-up companies to challenge these large organisations in almost every aspect of business. The customers of the twenty-first century do no longer simply want a product, they want a unique custom-made product. The Apple Company for instance took the computer world by storm, and if the large IBM corporation did not change and follow Apple's example as fast as they did, they would not have been with us today. For IBM almost lost the war on personal computers, and only its large business customers and its fast reaction to Apple's onslaught, saved the company in the end.

This battle happened many years ago, yet today it is even more relevant, for large organisations seldom account small market entrants as serious threats. No longer is only domestic competition a threat, but the whole world. Not realising or accepting this may yet surprise many organisations in the future.

> *For this is the dawn of the Power shift era. We live at a moment when the entire structure of power that held the world together is now disintegrating. A radically different structure of power is taking form. And this is happening at every level of human society.*
>
> — Alvin Toffler

A.2 Current Global Reasons why Innovation is Already Imperative (The Future as seen by Drucker[4])

Peter Drucker, a leading business consultant and economist, concludes in an article published in the Harvard Business Review[4] that not economical, technological, or even new breakthroughs will have the greatest effect on the world in the next millennium. In the article Drucker points out that 'his' future has already happened and we can do nothing about it. What he is referring to is the underpopulation of the 'First world countries', which includes the United States, Europe and the East.

The truth of the matter is that every first world country currently has a negative population growth rate. This means the collective age of the population in these countries is rising. This will require that people retire later or survive with fewer benefits in their retirement years.

In Europe, where this effect is already most pronounced, it is an enormous burden on younger people. To support the society they live in these younger people are forced to choose between living in relative comfort by reducing the amount of children per couple or carrying the burden and raising more than one child. The obvious choice of living in more comfort with fewer children results in severely reduced childbirth, which in turn undermines the total population in an escalating downward spiral. More and more people are staying single, preferring to live in luxury without any dependants.

The worst part of this reality is that the first world countries can do nothing to solve the situation. Even if young parents started having children at an enormous rate, these children would need at least 20 to 25 years to mature, before being able to contribute significantly to the economy. However, as yet there is no trace of a birth rate increase in any of the first world countries.

The underpopulation of the first world countries may be seen as a kind of salvation for many third world countries. One may argue that the overpopulated countries may supply the underpopulated with the necessary people, yet new high-technology processing and automated factories are making unskilled workers (which is the only people the overpopulated countries have) nearly obsolete. Development in robotics and virtual prototyping offer enormous efficiency and versatility, resulting in the replacement of repetitive labour and forcing workers to become more knowledge oriented. If the third world countries therefore hope to benefit from the people shortage in the first world countries, they will have to educate their workforce to similar education standards as the first world countries. This, however, has yet to be done on a large scale, for without education, third world countries will not be able to supply the first world countries with skilled workers, and no benefit will be realised.

With the third world countries out of contention, there remains only one alternative. Every person, young or old, will have to earn his or her own keep by working more effectively and more efficiently. No more will one be able to ride along with the wave of creative growth in large organisations, for nowhere in the world will information have to be duplicated as it was in the past. Entry into the magnificent twenty-first century will mean connectivity between all science and research institutions, enabling them to work together like never before. The possibility may arise where several research or science institutions could work together on world development issues, each being responsible for a specific part in reaching a common goal. This opportunity plays the central part in the ever-increasing dynamics of technological advancement in all fields of research. There is for instance currently a move towards a complete world unification of genome research institutions to increase the speed of mapping the human genome.

In this regard innovation will become a key factor in harnessing the new research findings and discoveries, enabling corporations and employees to better their own living environments by increasing productivity, efficiency and effectivity. For today with diminishing world resources, technology is becoming the only mechanism able to sustain an older world population and help younger people to survive and support them.

A.3 Managing the Post Entrepreneurial Organisation (Kanter[5])

How should large organisations enter and survive the future? In the words of Kanter: '...they should learn to dance', for no one is safe any more, neither large nor small organisations. In the informational rich environment, choices are limitless and to keep customers, the business will have to do 'more with less' and continuously satisfy. Therefore in the 'Corporate Olympics' businesses become players, and in order to win or at least survive, knowledge of the games and competitors are imperative. Yet knowledge alone is not enough and to win, organisations need to be pro-active, do more creative manoeuvring, be more flexible, react faster and form closer partnerships with customers and employees as were typical in the previous corporate bureaucracy.

It is the great bureaucracy of organisations that is preventing them from proactive innovation, as well as reacting fast enough to unforeseen scenarios. The mad rush to improve performance and pursue excellence has multiplied the demands placed on managers and organisations. And to comply with these, managers often feel a sense of hopelessness at the impossibility and incompatibility of business with changes in the technological and market environments.

In the nineties most major companies have started a formal program addressing innovation issues. Most have excellent plans, a total quality plan or even an innovation and entrepreneurial plan. In 1986 Moss Kanter's team already found that over 90% of large companies had spent, on average of 2.2 years on a corporate campaign of this sort. These campaigns should therefore be deeply ingrained in organisations by now and contribute significantly to current business competitiveness and success.

The corporate balancing act between continuous downsizing yet growing and doing more with less, is becoming the task of every manager and strategist. In the ever shrinking global environment, no company may be certain that a new unexpected competitor, leaner and meaner will not arrive to capture valuable market share and even company employees. Thus the balance between new ideas and continuous business and accomplishing more with less will force business, currently and in the future, to tune and retune practices and strategies.

A.3.1 Doing More with Less

Restructuring — How to improve and grow through restructuring are concerns of every manager, especially those proposing take-overs and joint ventures today. Yet the possible mismatch that might occur could prove more debilitating than most managers would expect. Restructuring therefore becomes fraught with danger, keeping managers busy with seemingly trivial problems, yet preventing them from doing their job. Threats held by restructuring are diverse and mostly they happen unexpectedly and seemingly without reason. For instance:

> The *state of uncertainty* while restructuring can reduce employee commitment and goal setting by undermining their belief in what they are doing and what they will be doing in the future. No person is immune to changes in their environment and when the future looks uncertain, few are willing to engage new challenges or even complete current ones.

Other threats may include:

> The *cost of confusion*: New letter heads are not yet ready, telephone extensions are unknown, and everything has seemingly disappeared into different filing or storage places.

> *Loss of energy*: Any change consumes emotional energy and by changing such a big part of a person's life as his/her work, it can sap much needed energy for other tasks.

Breakdown of initiative: If the future is uncertain and managers are restructuring, employees have the tendency to sit and wait to hear what will happen next.

This is the way it is: Restructuring makes the order of management explicitly clear to employees and upcoming managers alike. The power associated with the ability to restructure and change people's lives puts a heavy strain on the relationship between the management and the workforce. Suddenly the status quo where managers and employees worked together changes radically, and so bonds and working relationships are broken, emphasising power and seniority.

Restructuring, in short, increases the likelihood of unilateral managerial actions, which is exercised on everything all at once and further disempowers the rest of the people. Thus the need all the more exist for clear leadership that can reinforce employees' perceptions of value and belonging.

Synergies — The old saying goes: 'Build a better mousetrap and the world will beat a path to your door'. Yet to build a better mousetrap in a typical bureaucratic organisation, may change the process a bit. Here is how Moss Kanter envisions such a process might turn out:

You are very excited about your mousetrap and eager to get it to the consumers. But first, the mousetrap department manager, her boss and her boss's boss insist upon thorough reviews, each one asking for some changes before taking it to the others and then the whole thing goes to the vice-president of Mouse, Mole, and Skunk Traps Division (MMSTD). The price is marked up way over costs to cover the costs for the company volleyball court, executive dining rooms, middle management training on how to conduct downward and upward reviews, newspaper subscriptions and lounge chairs for the internal press clipping group, and other overhead charges.

At last the better mousetrap brand is ready to go to market, so an elaborate research project is begun in three rodent-rich cities in three different countries. Unbeknownst to you, the Chemicals and Pesticide Division (CPD) has already collected extensive data for the launching of its new Mouse Repellent, which is being sold through exactly the same channels (You learn this from reading the accident report filed by one of your MMSTD truck drivers who almost ran over one of CPD's truck drivers). Furthermore Animal Services, the company's innovative new lease-a-pet acquisition, has completed a psychological profile of the mouse-averse for its Kittycat product line, which points out the desirable features for mouse traps, a profile they are careful not to show you.

Meanwhile costs have mounted, there has been no way to build on what the other divisions have done, and Better Mousetrap gets to the market later and at a higher price than the offering of a spiffy new mousetrap speciality start-up. Wall Street which had once praised your parent corporation, 'Unrelated holdings, Inc.', for its smart move towards synergy by acquiring three companies with a common interest in rodent control, reacts unfavourable to the news. The stock drops precipitously. Raiders see the break-up value of UHI is higher than its current stock price; after all, three mouse-oriented divisions are gaining nothing by being together anyway, and 'corporate' requirements are a drag on their performance.

Then your boss calls you in for a heart-to-heart. 'Sad news, better mousetrap builder,' he says. 'The company has to cut its loses to avoid take-over, and since your product isn't doing well, we're letting you go."

Post-entrepreneurial organisations are taking steps to combat this bureaucracy and focus on synergies as a central part of their strategies. They start by clearing clutter out of the way through getting rid of extraneous activities, and making sure every area contributes something to the others. This improves the total value added by different areas, together with emphasis on the 'whole' contributing more than the separate parts.

Although this sounds straightforward, it is revolutionising corporate strategy.

In reducing bureaucracy and becoming 'leaner and meaner', organisations face the question of how to innovate and transform old products into new exciting ones. And the current direction of large corporations is to 'stick to their knitting', yet develop new products on the side for possible inclusion in mainstream business.

A.3.2 Cutting Paths for Innovation

Moss Kanter describes the trend we find in several organisations of splitting new innovations and ventures from the main business. She coins the term 'newstreams' which refers to the opposite of *mainstream* business.

This 'newstream business' sits apart from the mainstream with its own resources and management, capable of driving new ideas and projects. For example in the Kodak organisation there exists a division called 'Kodak New Technologies'. When an employee gets a good idea, and wants to develop it further, the employee contacts the New Technologies division for support. The division then assists the developer in researching and developing the idea into a fully-fledged product, including possible market penetration. It is required that the person with the idea is continuously part of the new venture, since that person feels responsible and is responsible for successes or failures. In this regard the New Technologies division acts as an incubator for new innovations, with special emphasis on innovation that is different from the typical mainstream efficiency improvements. If the venture becomes successful and the product is launched in the market, it will most probably be reincorporated into the mainstream business becoming a fully-fledged company product. In this way Kodak can stay ahead of competitors through radical and incremental innovation.

Kanter describes the advantages of splitting the mainstream and 'newstream' activities, because they differ so much in *uncertainty*, *intensity* and *autonomy*. For a new venture to work properly the environment needs to be different from mainstream's systems and formality. Entrepreneurs need to be free to experiment and react quickly to influences, which they would not be able to do in a mainstream environment. It sometimes becomes so crucial that any interference by mainstream management could offset many months of hard work and quick timing. Yet, 'newstream' management still needs to exist and account for resources received and goals accomplished. The 'newstream' environment, however, needs its own management people with open minds and a readiness to accept uncertainty, risk, defeats and great victories.

This exciting field of development can offer entrepreneurs an increasingly vibrant environment when attached to large organisations. By creating a separate, yet highly innovative cluster of 'newstreams', organisations may, where otherwise unsuccessful, draw entrepreneurs capable of doing masterfully innovative new things. Such a program could prove to be one of the best rescue plans for large bureaucratic organisations. That is if they are able to integrate these ventures successfully into the mainstream.

Kanter has many years of experience in the field of management and innovation as illustrated in the clear manner she writes about innovation. The mainstream and 'newstream' development paths may work excellent in some organisations, yet organisation are so different in their application of innovation that much adaptation to the mainstream and 'newstream' methods will have to be done. Integration between the 'newstream' and mainstream cultures may be a problem as well. However, Burgelman and Maidique may propose a solution in the next section on challenges to the innovation manager

A.4 Challenges to the Innovation Manager (Burgelman and Maidique[6])

There are two major innovation challenges for the established firm today. Identified by Burgelman, firms should distinguish between *induced* strategic planning (action) and *autonomous* strategic planning (action). Every firm faces these two paths when strategizing.

> *Induced strategic action* takes place as result of the firm's vision, mission and external environment. This strategy therefore reflects top-management's beliefs and understanding about the basis for the firm's past and current successes.[6] This includes their core competencies and product market domain wherein they compete successfully. While in small firms this strategy and action are usually closely linked this is not the case in large organisations. They typically require the creation of structural context to secure the link between strategy and action.
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> *Autonomous strategic action* does not form part of current corporate strategy, yet opens up new areas and niches for creativity. Successful autonomous initiatives lead to an amendment of the firm's strategy through the process of strategic context determination. It specifically involves the middle-level managers in their formulating of a broader strategy for the initiatives of internal entrepreneurs. They also act as organisational champions to convince management to support these initiatives. The autonomous action is guided by the strategic recognition capacity of senior and top managers, rather than by strategic planning.

A.5 Innovation Opportunities in the Induced Process

Innovations associated with the induced process are typically incremental or architectural.[7] They emerge in part from the firm's R&D (research and development) investments, and its formal new product development process. Incremental or architectural innovations are not necessarily small innovations yet they build on previous products and experience. When the Boeing Company for instance develops a new airframe for its next-generation aircraft the innovation is incremental, for it is well understood and builds on the previous model. It is, however, an extensive innovation.

As products reach the mature stage in their lifecycle the development process shifts from the 'fluid' stage to the 'specific' phase. This places more emphasis on incremental process innovation than on product innovation.[8] In the short term, however, managing incremental and architectural innovation is the most significant challenge to established firms. To meet this challenge firms must develop strong product and process development procedures.

A.6 Innovation Opportunities in the Autonomous Process

Typically, innovations associated with the autonomous process are technological or modular.[9] These opportunities emerge unexpectedly from an array of stimuli including corporate research, individual creativity and social discussions. These ideas are mostly radical and not necessarily large, at least at the beginning. For instance an individual engineer invented electronic fuel injection (EFI) at the Bendix Corporation. Now however, EFI is a $100 million-plus segment of the automotive industry. Similarly Steve Jobs and Steve Wozniak developed the personal computer in a garage and total computer sales are currently well into the hundred billion dollar per year scale.

Allowing the autonomous strategic process to happen is important for large organisations. To ensure future growth new radical and modular developments need to happen, since the growth potential of the mainstream diminishes as its product's lifecycle nears the end. Thus sooner or later firms must find and exploit new growth opportunities and this can only happen by encouraging diversification and radical innovation. Understandably organisations are sensitive to these kinds of innovations since they are risky and often fail. It is therefore not surprising to find many authors arguing that firms should maintain the 'common thread' or 'stick to their knitting'. This may be good advice for firms who have not yet exploited all the possibilities for further growth in their mainstream business, but does not hold true for those who have. Such statements overlook the fundamental growth problem of stretching a single concept to the limit. To meet the innovation challenge associated with the autonomous process, firms must develop a capability to manage internal entrepreneurship.

A.6.1 The Balancing Act

These two concepts in the management of innovation and its strategic development, force the top-level manager to find a balance between induced and autonomous innovation, since each of the separate strategies is crucial to the immediate and long-term survival of the organisation. This is, however, difficult in part because the two innovation challenges require different management approaches, and there is a strong tendency for firms to address the challenges sequentially rather than simultaneously.[6]

A.6.2 Managing Corporate Entrepreneurship

If not repressed, technology-based innovation often emerges spontaneously.[6] With firms continuously bringing in new talent, they encourage new ideas and methods to form, in as yet, uninfluenced employees. Ideally these new talents are responsible for new technological innovations, yet a receptive and structured environment often plays the key role in deciding a new venture's outcome. Here are some examples illustrating the value of young entrepreneurs:

In 1966 calculators were largely mechanised. A young man working for one of the calculator companies took a model of an electronic calculator to the Hewlett-Packard firm. His own firm was not interested in it, because they did not have the electronic capability. In spite of unfavourable market research forecasts, William Hewlett personally championed the project.[10]

In 1980, Sam H. Eletr, a manager in Hewlett-Packard's laboratories, tried to persuade the company's new product development division to get into biotechnology. 'I was laughed out of the room', he said. But venture capitalists didn't laugh. They persuaded Mr. Eletr to quit Hewlett-Packard and staked him $ 5.2 million to start a new company. Its product: gene machines, which make DNA, the basic material for the genetic code — and the essential raw material in the burgeoning business of genetic engineering. Now, three years later, Hewlett-Packard has formed a joint venture with Gentech Inc. to develop tools for biotechnology. A new product it is currently cons ering; 'gene machines'.[11]

How should corporate managers deal with autonomous strategic initiatives? Clearly, not every new initiative can or should be supported. Yet it seems reasonable to ask if the managers in the above examples made a decision on the strategic implications of the initiative or simply on the basis that 'we don't have that kind of capability'. Such almost rash decisions can influence the future of the firm drastically if for instance a close competitor launched the proposed new initiative. Therefore the firm must allow the entrepreneur to develop the idea to a presentable product, even as far as a prototype. This is because the autonomous strategic initiative explores the boundaries of the organisation's competencies and markets, and forms a crucial part of the strategic development process in established firms.

A.6.3 New Venture Divisions

In response to new technologies developed in corporate research or initiatives in the autonomous process, top managers have tried to create separate new venture divisions (NVD). The idea was that internal entrepreneurs should be allowed to pursue ventures, unencumbered by the constraints of mainstream business management. Then having reached critical mass, such new ventures would be reintegrated within the mainstreams, or become a division on its own. This opportunity of becoming a manager of a major new business would be a strong incentive for corporate entrepreneurs.

However, the validity of these management procedures have been discounted by experts such as Fast,[12] and Burgelman, who documented serious problems associated with the NVD design. It may therefore not be so easy to increase innovation by simply creating new venture divisions. Reasons and a possible solution are discussed in the following paragraphs.

A.6.4 NVD-operating Division Interface Problems

Product-market domain and synergy interference between new venture development units and current divisions, can lead to serious problems for both parties. The product market domain of new ventures is meant to be outside the divisional domain, yet many times conflicts between the division's and the corporation's interests arise. For instance: A current division of the firm might want to absorb a successful new venture into its mainstream of business, yet the venture may feel its purposes best served staying apart. Other conflicts may arise when the sales force of the new venture starts contacting current division clients and thus steals market share from the division.

Except for the potential clashes between strategy and market potential, frictions between administrative and management staff may also occur. This may result in the new venture being sabotaged by disgruntled employees in the mother firm not chosen to be part of the new venture. The new venture workers may act as if they are better than the mother firm's workers, making it extremely difficult to reintegrate the two, should the need ever arise.

A.6.5 NVD-corporate Management Interference Problems

One key problem facing a new venture is the possibility of an unclear corporate strategy on diversification. In addition corporate management often has no idea of the rate of strategic change the firm can sustain. Finally top-management may become concerned with the effect new ventures may have on the firms corporate image. For instance if an inferior product is sold to a client by one of the new ventures, the customer may assume that the whole firm's product range has decreased in quality, resulting in massive depreciation of corporate image. With this being the case and top-managers often not knowing what to expect, they adopt a vacillating stance towards new ventures. Since venture managers are aware of this, it puts enormous pressure on them to grow the business as fast as possible, sometimes even at all costs.

The friction between new venture and mother firm, often has its source in venture managers cutting corners on quality and standards. Also, the lack of measurement and reward tailored for the new venture environment serve as motivation for dysfunctional actions. For example if the size of a business is the major criterion for managerial compensation, it should not be surprising to see managers of new ventures growing their ventures disproportionately large, to secure this bonus. Further more venture managers are likely to resist attempts on the part of corporate managers to institutionalise their venture, as long as they feel that the corporate ways and means are impeding their struggle for success in the market, as well as in the internal corporate environment.

A.6.6 A framework for Assessing Internal Entrepreneurial Initiatives

If then, the new venture option is not the best, what can corporate management do to deal with autonomous strategic initiatives? Clearly dumping innovation initiatives into new ventures divisions every time, is not elegant, nor does it get the job of effective new development done efficiently. There simply has to be a better option in dealing with new initiatives. The first thing to understand is that each new initiative is different and that different ideas need different managerial and strategic inputs. The next step is to develop an analytical framework that can be used to assess entrepreneurial initiatives, and can lead to tentative conclusions about the type of organisational design best suited for the new venture. This in turn helps with the relationship between the new venture and the corporation. A proposed framework focuses on two key dimensions of strategic decision-making concerning internal entrepreneurial proposals: The expected importance for corporate development and the degree capabilities are related to the core capabilities of the corporation.

Assessing the Strategic Importance of Initiatives

Assessing strategic importance involves considering the implications of an entrepreneurial initiative on the firms market position. It is important to note that not only the positive side (if the new venture is successful in launching the product) should be concerned but also the negative one (what if the competition launched such a product before the new venture could).

Although top-management may not often be well equipped to make decisions of strategic importance of entrepreneurial initiatives, they can turn to middle level managers. These managers often have a greater knowledge of the specific technology and based on their own substantive assessment, can offer valuable information to top-management as champion to new initiatives. Examples of critical issues to address in these substantive interactions are:

- How well does the initiative maintain the firm's capacity to move into areas where major current or potential competitors may move to?
- How does this help the firm determine where not to go?
- How does this help the firm create new defendable niches?
- How does it help mobilise the organisation?
- To what extent does it put the firm at risk?
- When should the firm get out of the venture if it does not seem to work?
- What is missing in the analysis?

Strategic assessment of proposals may result in them being characterised as *very* or *not at all* important. In several cases the outcome may be unclear and then lead to assessments like 'this may be important in the future' or 'important for the time being'. The key to such analysis is the finding of substantive grounds to base one's assessments on, especially if they have to serve as reference for future assessments.

Assessing Operational Relatedness of Initiatives

Core competencies are the key factors making an organisation what it is. To find the relations between a new initiative and these core competencies are necessary and useful. Synergies between initiatives and firm core competencies can not only enhance the success possibilities of the venture, but the firm's competencies as well.

In order to make the required assessment of operational relatedness, corporate management again needs to consult with middle management that champion entrepreneurial projects. Some critical issues to be addressed are:

- What key capabilities are required to make this project successful?
- Where, how and when will the firm get it if it does not have it yet, and at what cost?
- Who else may be able to do this, perhaps better?
- How will these new capabiliti affect the capacities currently employed in the firm's mainstrean. . usiness?
- What other areas may possibly require successful innovative efforts, if the firm moves forward with this project?
- What is missing in the analysis?

Drawing up a competencies/capabilities framework for the organisation may help in evaluating operational relatedness, if it does not already exist in the organisation. In light of this the new initiative may be classified as very or not at all related to the corporate operation. Or in other cases the assessment could lead to a partly related outcome. In every case however, the assessment should be made in specific substantive terms.

A.6.7 Design Alternatives for Corporate Entrepreneurship

After assessment of a new initiative for its strategic importance and operational relatedness, corporate management must choose an organisation design for structuring the relationship between the new business opportunity and the corporation. This involves various combinations of administrative and operational linkages.

Organisational Designs for Corporate Entrepreneurship

Operational Relatedness

Unrelated	Special Business Units	Independent Business Units	Complete spin-off
Partly Related	New Product Department	New Venture Division	Contracting
Strongly Related	Direct Integration	Micro New Venture Department	Nurturing and Contracting
	Very important	Uncertain	Not Important

Strategic importance

Table A.1 Organisational Designs for Corporate Entrepreneurship, Source: Burgelman

Determining Administrative Linkages

Control and how much control should be applied by the corporation, is one of the crucial factors that needs to be determined, before a new initiative is started. If strategic importance of the new initiative is high strong bonds between the corporate and new business are in order. This in essence means that the new business will be folded into the corporation sooner rather than later and close co-operation becomes essential. Thus measurement and reward systems must reflect the corporations, ensuring complete compatibility between the two businesses.

However, when strategic importance is low, management should rather evaluate how best to spin off the new venture. In ambiguous situations where strategic importance is somewhat unclear, management should relax the structural context and allow new initiatives some leeway in its strategic management. Such undecided new business units require mechanisms, facilitating substantive interaction between middle and corporate management, and a measurement and reward system capable of dealing with as yet unclear performance dimensions.

Determining Operational Linkages

The advantages of initiatives with high operational relatedness are obvious. If there are many synergies between the corporation and the new venture, they reduce learning time and increase utilisation of current corporate capabilities. Corporate management should ensure that both new and existing capabilities and skills are employed well, through integration of work flows, adequate mutual adjustments between resource users through lateral relations at the operational level, and free-flows of information and know-how through regular contracts between the corporation and the new venture.

When low operational relatedness occurs, the new business unit may require complete detachment from the corporation, with as little intervention from it as possible. In the instance of unclear operational relatedness, loose coupling seems most appropriate. In these situations the workflow of new and existing businesses should essentially remain separate, and interaction should be through individual integrators rather than direct operational managers. The flow of information and know-how needs however to remain uninhibited.

A.6.8 Choosing Design Alternatives

To facilitate the setting up of a new business unit, a matrix detailing the various combinations of administrative and operational linkages have been proposed by Burgelman.[13] The matrix comprises of the three assessment outcomes of each operational and strategic relation between the corporation and the new initiative, as discussed earlier.

The design alternatives are, however, not exhaustive and the scales for different dimensions used, remain rudimentary. The framework provides a conceptual underpinning for a number of practices adopted by established firms.

Direct Integration
This type of venture is nearest to the corporation in strategic and operational importance, and requires strong operational and administrative linkages. It means that this business unit will be directly integrated into the corporate mainstream.

New Product Department
With high strategic importance yet lower or ambiguous operational relatedness, this business unit requires a strong administrative, but medium to relaxed operational linkage. This may be achieved by creating a separate department around an entrepreneurial project, with the possibility of significant skill sharing.

Special Business Units
High strategic importance and low operational relatedness, may require the creation of a separate business unit. In such a case strong administrative linkages are needed, yet little or no skills transfer between corporate and business unit is possible.

Micro Ventures Department
Uncertain strategic importance and strong operational linkages are ideal for peripheral projects, which are likely to emerge in operating divisions on a rather continuous basis. Such projects require loose administrative linkages with venture managers able to develop a strategy within budget and time.

They should, however, not be otherwise limited by divisional or corporate level strategies.

New Venture Division (NVD)
With both operational and strategic importance low, the new venture is the most ambiguous business unit. The NVD may serve best as a nucleation function, and provide a fluid internal environment for projects. Its strategic importance however still has to be determined as the new business unfolds.

Independent Business Units
Uncertain strategic importance, yet strong operational linkages, make this arrangement appropriate. The corporation may want to keep strong ties with the new venture, possibly becoming a high quality supplier with little need for administration by the corporation. In such cases the firm may want to have a percentage of ownership of the venture and offer the rest to the start-up managers.

Nurturing Plus Contracting
When niche markets appear, which may be too small for large firms to enter, new entrepreneurial ventures may do the trick. When strategic importance is low, yet high operational relatedness exists, new entrepreneurial ventures are appropriate. Top management may want to help entrepreneurs set up their business and help with some operational skill, yet stay detached where administrative links apply.

Contracting
The possibilities and linkages between corporations and new contracting ventures may seem to diminish with lower operational and strategic relatedness. However, some scope for technical transfer and cross company learning may still exist.

Complete Spin-off
When strategic and operational importance both seem to be low, a complete spin off seems most appropriate. A careful assessment of both dimensions, by the entrepreneur and the corporate management, would probably result in a well-founded decision.

A.6.9 Implementing Design Alternatives

To implement designs for corporate entrepreneurship effectively, organisations first have to understand three major issues and possible problems.

1. Corporate management should view the assessment framework as a tool to clarify their community of interests and interdependencies and to structure a non-zero sum game.
2. Corporate management should establish measurement and reward systems, capable of accommodating the incentive requirements of different designs.[14]
3. As the development process unfolds, new information may modify the strategic or operational importance of the venture, requiring renegotiations of previous designs.

Corporate management should treat entrepreneurs as 'strategists' and perhaps even encourage them to think as such. This will be necessary to ensure both parties feeling they have achieved their individual interests to the greatest extent.