Learning From Evolution: A Study of Acer's Corporate Strategy

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Abstract

This paper addresses the association between policy innovation and the modern corporate strategies of a major IT firm in Taiwan. The recent economic crisis in Asia Pacific makes this investigation extremely valuable in that the lessons learnt from this case analysis can be readily applied to other IT firms in the region and beyond. This paper is organized in five sections. Section 1 provides an introduction and motivation for using lessons from evolution theory for improving corporate policies. Section 2 sets up the stage for this analysis by providing a summary of previous research and a commentary on the Asian business system. Section 3 discusses the growth of Acer Corporation and its past strategic decisions as they associate with the principles outlined in a previous research. Section 4 discusses how these principles can be extended to deal with the external forces (competition, and international economy and regulations) challenging this firm. Finally, Section Five provides the conclusions of this paper and sets up directions for future research in this area.

1.0 Introduction

Strategy is about creating and sustaining competitive advantage that underlies success. The strategic management theory prescribes that firm should create and maintain a fit with their environments. The firm should have a tighter fit than its competitors because survival and success is reserved to the fittest, not merely the fit. Distinctive fitness or competitive advantage represents the essence of strategy. Strategic management theory explains competitive advantage by the fit between the strengths and weaknesses of the firm and the opportunities and threats of the firm's environment (Hamel1989). Given the comparative concept of fit in strategic management theory, it is less suited to explaining sustaining or declining competitive advantage. Explaining the transformation of competitive advantage requires a dynamic mechanism. Evolution, as a logic of change, could provide such a tool. As evolution evolves competition for scarce resources, the biological metaphor can be applied to the strategic management since strategic management studies how a firm should outperform its competitors for scarce resources. Also, strategic options or policy selection can be directly mapped to the concept of natural selection in Darwin's theory of evolution (Wolfgang et. Al. 1998). Evolution theory might therefore add insight to the development of the relationship within a firm and between the firm and its environment.

This paper is organized in five sections. Section 1 provides an introduction and motivation for using lessons from evolution theory to management of companies. In particular, this section provides reference to key recommendations from theory concerning the lessons from evolution theory as they can be applied to corporate management. Section 2 presents two alternative strategic models for an international company as it moves on a growth path. Managing resources across subsidiaries becomes a challenge. Managing transfer of knowledge across subsidiaries to promote innovation also becomes very difficult. There are no easy answers here. This section sets up the stage for this analysis by providing a commentary on the Asian business system that has been so much influenced by its unique culture and values. A short discussion of five **r**ules of **e**volutionary **m**anagement (REM) proposed in a recent research work by (Hines1998) is also presented here. Section 3 discusses the growth of Acer Corporation and its major strategic decisions with discussions of how they relate to REM. Section 4 discusses the impact of external forces (competition, and international economy and regulations) on this firm in the last two years. It is proposed how the rules of evolutionary management can be extended to address the impact of competition, international regulations and unique culture and values as they would in real world situation. Finally, Section 5 provides the conclusions of this paper and sets up directions for future research in this area.

2.0 Strategic Models of IT Companies

Strategic decisions of a company are influenced by market conditions, degree of competition, condition of economy, regulations affecting the industry, its own growth targets and the interactions with its subsidiaries i.e., business units (Morton 1990, Hamel et. Al. 1990, and Collis et. al. 1998). However, the management of innovation for the parent company is a challenge. There are two possible models. In first model, the parent company acts as a central repository of innovation database transferred from its subsidiaries. It is the responsibility of parent company then to transfer this knowledge to its other subsidiaries. In the second model processes are set up so that the individual subsidiaries share and transfer their innovation knowledge among themselves (See Figure I below).

It is interesting to note that companies employ different set of strategies at different phases of the life cycle as illustrated in Figure I below. Initially the product idea comes from in-house innovation, and the company resources are concentrated around development and marketing of the product. During growth phase, efforts are used in marketing to achieve high market share, revenues and the innovation is heavily influenced by the market pull. Once a company has achieved “success”, competition sets in. Additionally, company has to expand to retain its growth, and starts diversifying and expanding. With the competition growing and limited resources (competencies), the company starts joint ventures and alliances setting up subsidiaries and business units (Lessard 1998). The product innovation becomes very difficult to manage at that point. Coordination of individual company activities to benefit the overall company becomes a challenge

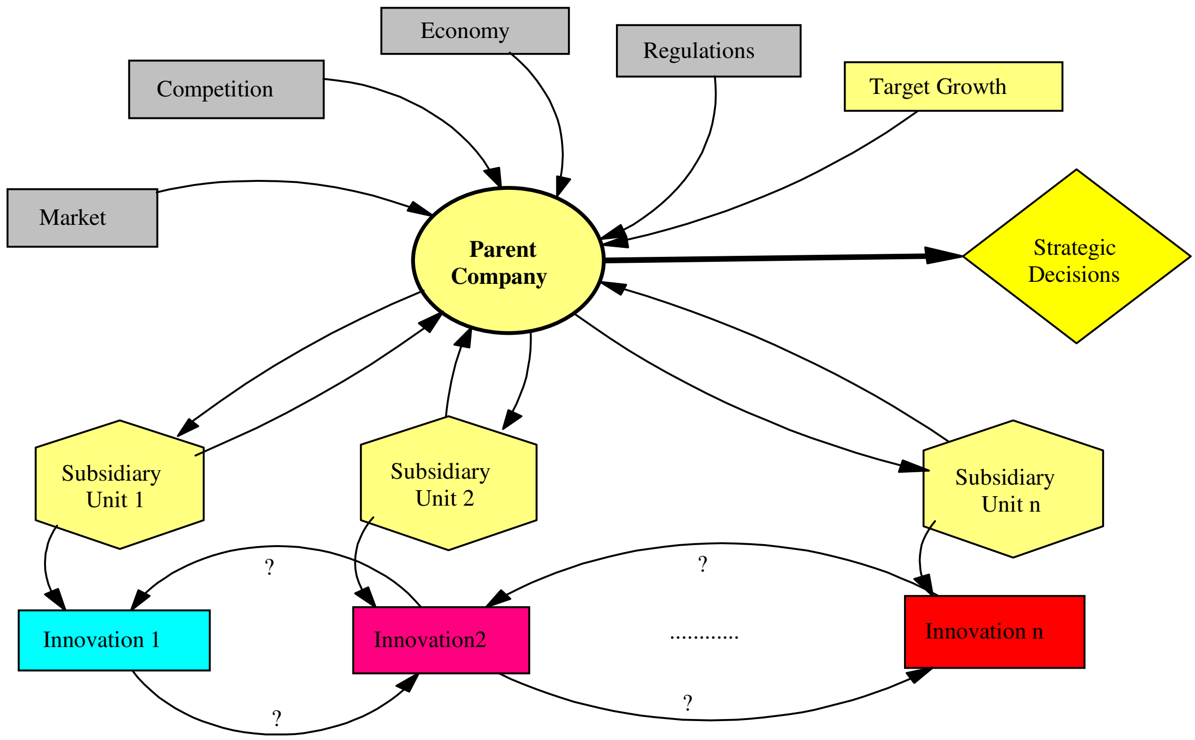

Figure 1: Innovation and Transfer of Knowledge in Companies

2.1 World and Asia – Economic Perspective

While different geographical areas are aggressively establishing regional trading blocks, most multinational companies continue to identify with a global rather than a local market, and pursue the opportunity to actively participate in all regions (Lessard 1998). The recent economic difficulties in Asia have brought clearer understandings of many of the obstacles that need to be overcome if Asia is to continue its dynamic growth in the next decade. There are numerous challenges facing the region. The over-stimulated economy is now producing an increased number of insolvent lending institutions. Political corruption, unethical business practices, cronyism, and management ineptitude is widespread. The heavy investment in industries like autos, consumer electronics and chemical processing has resulted in over-capacity and strong price competition. Membership in World Trade Organization is requiring local market access by global competitors. Long term-regulations have left many firms ill prepared for such competition, which will require serious restructuring of local industries. The absence of local capital market makes it difficult for nations to build competitive infrastructure or to invest in local firms. Small entrepreneurial firms are especially starved for funds. Rising labor costs and the need for higher level skills are exposing the weakness of school systems and lack of creative thinking. Asia's growing emphasis on information technology will support a major effort in software development that will gain prominence as that labor-intensive industry increasingly moves into low-labor-cost countries like India, China and the Philippines. However, Taiwan in general is weak in making consumer electronics and telecommunications products. The island is no longer the low cost manufacturing leader. As Taiwan's labor rates soared during 1990s, local companies were able to copy by setting up low-cost manufacturing sites elsewhere in the region, primarily in China and Southeast Asia.

Asia's fleet-footed family companies have built their astounding financial success on personal contacts, family ties, and opportunistic expansion. But now they are being forced to adopt a whole new way of doing business. Asia's family companies are now confronting a host of new realities. On an immediate level there is the fallout from the recent crash: more volatile foreign exchange, higher interest rates and more parsimonious lending environment. Then there are more deep-rooted changes: governments throughout the region are deregulating markets, and competition is getting tougher with multinational companies expanding to regional markets. The families are trying to create a hybrid organization that combines the best managerial aspects of the East with those of the West. The key for these companies is to

- retain the Asian strengths and emphasize on entrepreneurial behavior
- promote a corporate culture that stresses a sense of family among employees and merge them with elements of Western management
- develop and execute formal strategic planning
- practice clear and consistent accounting
- maintain a laser like focus on innovation, customer service, and quality.

2.3 Five Rules of Evolutionary Management (REM)

Jim Hines [1998] proposed five rules of evolutionary management (REM) in his recent research work. This study was further investigated (Hines et. Al 1998) using systems dynamics simulation studies for software development projects. The idea is to consider policy as a genetic material and then use lessons from theory of evolution that explains how novel genetic material (and hence policies, i.e., strategic choices for companies) can arise and how genetic material can be manipulated so that "children" can surpass "parents". The five rules of REM proposed in the research are:

1. REM #1: Policy as genetic material – The need to be tough on policies, not people because we are evolving "policies" not people.

2. REM #2: Genetic Novelty – The need to control policy innovation. Recalling the principle of entropy, there are more states of chaos than the stable one, it is more probable that a new policy innovation will lead to worse conditions. Therefore companies should consider putting breaks on policy innovation.

3. REM #3: Surpassing the parents – the need to foster contacts; mix people together. Learning from each other is the basis of managing through teams. By mixing people with "good" policies promotes more rapid evolution of better policies.

4. REM #4: Pointing and pushing mechanism – the need for selective learning. This translates in to policies that provide directions for people and identifies people in the company who are "leaders" to learn from. So companies need to have "leaders" who can provide an environment so that others aspire to learn from these leaders.

5. REM #5: Choosing evolutionary direction that people really want. It is important that companies help people achieve their personal goals and ambitions, and policies of the company should promote and support this.

3.0 Growth of Acer

In the new IT age, successful high-tech manufacturers need to react quickly to advances in technology and changing market conditions (Clemon 1991). At the same time, it's just as important to keep costs as low as possible. To succeed in this ever-changing open-environment, Acer had to find ways of implementing decisions quickly in the face of strong competition, and reach economies-of-scale in low-cost manufacturing—it had to develop its own "disintegration" business model (Gold et al. 1996). One of the first changes Acer made on its road to re-engineering was to form independent Business Units (BUs). Strategic Business Units (SBUs) are responsible for R&D, product management, manufacturing, and OEM sales. Regional Business Units (RBUs) were responsible for distribution, service, and marketing functions. This new BU-focused business structure produced immediate results: independent ownership and responsibility created strong motivation incentives; decisions were made faster; management became much more focused; and a better understanding of overseas markets was developed. But as helpful as these innovations were, the company still needed to become more flexible and responsive, so two new strategic models were created: the "*fast food*" logistics and assembly business model, and the "*client-server*" organizational management structure.

- The "*fast food*" business model is similar to the model used by fast-food restaurants. "*Components*" are pre-prepared in large, centralized mass-manufacturing facilities, then are shipped to "*assembly sites*" close to local customers. This makes it possible to enjoy production economies-of-scale while also tailoring each individual product to suit the needs of each individual customer. The result is standardized quality, customizable products, and lower inventory costs.

- The "*client-server*" management model lets each Business Unit, and other Acer-affiliated business, act independently but also coordinates each one's efforts to gain maximum overall benefit from full-use of Acer's international resources. At the heart of Acer's "client-server" organization is a closely-linked network of mature and experienced managers who are committed to the success of their own "piece of the Acer Group," as well as ensuring Acer's overall long-term growth.

Acer also revised its manufacturing strategy to a combination of outsourcing and improved distribution center. This has given a large advantage to leverage the expertise required in new areas and the low cost labor market in the foreign countries. This also does not require Acer to develop all capabilities "in house", and the same resources can be used to improve the quality of its products. This is important because with falling semiconductor prices, it customers in Asia pacific are not cost sensitive any more.

3.2 Acer Management Philosophy – Decentralized Management & Decentralized Structure

A unique corporate structure was created in 1976 – instead of rigid pagoda patriarchal power typical of Chinese family businesses, Shih opted for an open structure with extensive individual responsibility and financial participation. Acer continues to tap the urge to become the boss – by giving decision-making powers to local managers in the Acer plants and offices around the world and letting them run their operations like managers. This corresponds to REM #4. These managers became the "pointing" and "pushing" drivers for others to imitate. Also, as these managers were rewarded for their results, the road to prosperity certainly became the direction for the employees of Acer – and that is what they have longed for in that part of the world.

3.3 Local Ownership - Motivation

Acer promotes both opportunity and risk by encouraging local ownership for employees and the general public. If local managers and employees are able to share in the benefits of the business's success, they will be very motivated to take on their share of responsibility for running the business and will do their best in all that they do — for the good of the company. Acer is unique in its willingness to give up control and majority ownership of its local operations in order to motivate each franchise to maximize their own business's overall growth and profitability, thereby maximizing Acer's overall success. People in that region have not shared the growth as enjoyed by selected few. This sharing of Acer's growth with the people sets up the direction that is immensely embraced by the wills of people. In other words, REM #5 directly applies here.

3.4 Fresh Technology for Everyone

The Acer Group is set to begin a new phase in its historic business development, based on the new corporate mission statement: Fresh Technology Enjoyed by Everyone, Everywhere. The fast-paced change in the IT industry's business environment reflects the changes occurring in technology and product innovation. To provide the best value, products need to have the freshest technology available. But 'fresh' is not the same as 'new'. The "fresh" vs. "new" dichotomy is similar to the innovation ("mutation") vs. learning ("recombination") idea of evolution theory (Brown 1992). New can mean expensive, unproven, and risky. New is often not affordable for ordinary people, especially those from developing countries. Fresh means the best: proven, high-value, low-risk technology which is affordable to everyone, plus has a long useful life span. Fresh means innovation based on mature technology which is user-friendly, reasonably priced, and enjoyable by everyone, everywhere. This company's vision was very strongly practiced and this exactly what REM #1 states that the companies need to be tough on "policies", not people. So Acer chose to be tough about the services that it was offering – and not signaling out the employees to come up with high revenue numbers.

Acer has a history of providing fresh innovations, starting with ChipUp, single-chip CPU upgrade solution, which let PCs, be easily transformed into high-performance systems. Acer's screwless and modular housing designs were a boon to both users and service providers alike, and the Uniload distributed assembly system is proving to be one of the best fresh ideas to date, as are the OOBE (out of box experience) easy system set-up design and ACE (Acer Computer Explorer) user interface. Most recently, the new Aspire line of multimedia home PCs offers the most visually powerful example of a fresh idea and new ways of thinking. The Aspire design has been heralded by business and industry media, and has even been called "... the hottest story of the season," by leading IDC analysts. However, this contradicts REM #2 that asks for controlling "policies". In other words, with so many "innovations" or "product ideas", the company has not been able to keep focus on its offerings. And this may have been one of the failures of its strategies.

3.5 A "Client-Server" Business Network – Ability to be Flexible and Fast

Computer networks, using a client-server architecture, link together personal computers and PC-based servers. Such networks are powerful enough to replace large minicomputer and mainframe systems, offering better performance and value, plus exceptional flexibility because they can be easily modified to meet users' changing needs. Using this same client-server design philosophy, Acer has created an organizational structure, which helps it to meet the rapidly changing market needs in this ever-changing industry. When implementing this strategy, Acer created one important distinction. In a client-server network, client computers usually act as clients and servers generally perform server roles. In Acer's client-server organization, client companies can also act as servers and servers may very well behave like clients — adaptability is an essential part of the basic design.

An information technology (IT) company the size of Acer could never be managed effectively from one central location. It would be impossible for the business to react quickly enough to changing conditions in local markets. To stay fast and flexible, responsibility is delegated to a network of autonomous business units. In this way, Acer Group companies can compete efficiently in their respective market segments. The client-server structure also lets each unit fully benefit from the competitive advantages gained by leveraging the global resource base made possible by this large network of diversified business operations. It's a company designed to maximize its speed, cost, and value advantages — responding quickly to changing needs and shifting trends, Acer minimizes costs in order to maximize the value to its customers.

This problem of coordinating activities across geographies is quite challenging in large corporation. Unfortunately, none of the five REM addresses this issue. Cooperation with other firms in new technologies (technology alliances), outsourcing, acquisition and selling parts of the companies are some of the strategic choices in this scenario.

3.6 Client-Server Operations – Knowledge Transfer

The Acer Group organizational structure defines two types of business units: Strategic Business Units (SBUs) and Regional Business Units (RBUs). SBUs are technology companies, responsible for the design, development and production of PC component and system products. SBUs are also responsible for OEM product sales and marketing. RBUs are primarily Acer-brand marketing companies, responsible for specific regional territories. They develop new distribution channels, assemble finished products, provide support for dealer and distributors networks, and even create new joint venture Acer operations in key local markets. Put simply: SBUs make Acer-brand component products and RBUs assemble and sell them. The Acer Group business network links the two BU types, bringing reciprocal access to the products and channels available within The Acer Group, and creating win-win business opportunities for each respective BU. Each BU in turn is able to establish its own business partners either through spin-offs, joint ventures, or some other type of relationship building strategy. Once these newly created BU-based partnerships are established, they too can tap into the worldwide Acer Group resource network. If, for example, the new partner has expertise with a new type of technology, they may choose to leverage an Acer SBUs manufacturing capabilities. In this way, the network can grow and expand as opportunities present themselves to each member of The Acer Group.

4.0 Acer Business Strategy – Current Status

In the presence of international competition, Acer needs to revisit its strategy in light of the following phenomena:

- Asian crisis has led to falling demand in the local markets where Acer enjoyed (almost) monopoly and generated majority of its revenue
- With falling prices of the semiconductor products, the customers in the not-so sensitive technology market have become more quality sensitive and Acer is not a quality leader.
- Multinationals have also started entering the Asian market with low price and high quality offerings and thus creating tougher competition for Acer.
- North American and European markets are dominated by “big guns” like Intel and IBM – and Acer cannot compete on its own in these markets.

Given these conditions, partnership and acquisition of other IT companies seems to be a good alternative for Acer to match its competition.

Acer is more vertically integrated than the major vendors and already has components/subassembly supply relationships with these regional distributors. Acer also has a unique ability to rebalance inventory through its relationships with industrial distributors when necessary. Consequently Acer is better equipped to get inventory out of the channel-assembly market and into the component-distribution market when needed or rebalance in the other direction in times of short supply. Acer has also avoided adding more functions to motherboard, which at times can cause compatibility difficulties when different subassemblies are swapped in and out. This design difference also makes it easier for resellers to upgrade older systems instead of replacing them when servicing their customers.

4.1 Reorganization and Reseller Strategy

Acer has experienced heavy loss in its Acer America subsidiary. Acer America restructured into six new divisions in its bid to provide "customer centric solutions". This restructuring should translate into more resources for the channel. It has also introduced Co-op incentives for VARs by increasing co-op dollars for VARs delivering customer centric solutions and a new Discover Acer training program that incents resellers to take product certification tests and bid against other competing resellers for points that can be used for a variety of prizes in cyberauction. Acer's new web site, called Channel Forum, provides resellers with information about reseller programs and policies. The site also contains product information, sales and marketing tools, service and support resources, e-mail and phone numbers of Acer contacts. Its Channel Alert Initiative provides resellers with timely press releases, product announcements, promotions and price changes. The Channel Update is a weekly electronic newsletter providing updates on the company's corporate and business activity. The Electronic Product Catalog offers updated product information, phased out products and warranty and service information. Acer Assist provides systems diagrams, parts lists and prices, technology articles, frequently asked questions and service and support information. Acer is focusing more resources on the small-business market rather than the corporate market. The corporate infrastructure acquired in the past is being shifted to leverage and support the channel. Acer has created an XC or Internet information appliance task force to accelerate the company's entry into that market. Acer defines XCs as information appliances built on the industry standard X86 Intel PC architecture and open Internet protocols.

With all these innovations going on, making the business choices has become very difficult. It is not possible to pursue every innovative idea that comes to mind. Rather a careful evaluation of different business proposals are done to make sure that the proposal is consistent with the company's overall vision and goals. This is in odds with REM #2.

4.3 Partnership and Outsourcing

Acer formed a strategic alliance with 3-COM to integrate networking technologies and products. The idea is to combine marketing and technical expertise of the companies to deliver new networking capabilities. This is a way of combining policies of the companies. As a part of the deal, Acer will deliver PCs with 3COM network interface cards as a system solution enabling users in the corporate enterprise, small business and education to easily connect their computers into corporate LANs, WANs or intranets or to the internet. Acer and 3COM will implement joint worldwide sales and marketing programs throughout all Acer Regional Business Units. Acer has also been in talks with other companies to join hands in different technologies as well as in outsourcing parts of its processes to other companies.

4.5 Vision: Aspire Park – Taiwan's "*Silicon Paddy*"

According to Stan Shih, Acer CEO, software will make up one-third of Acer's revenue and one-sixth of its income by 2010. Acer is spearheading a 450-acre privately funded industrial estate on the outskirts of Taipei, which will include a Creation and Innovation Center as well as green space and homes. The idea is to follow the US model of branding and R&D. Acer is planning on investing US$1 billion within the next 13 years to nurture about a hundred new software start-ups on the island. Aspire Park hopes to attract not only software houses, but also advertising companies, architectural firms and even individual artists so that the programmers can work and live next to creative people from other fields. This will promote fostering the contact among people with different sets of expertise that will lead to the most innovative ideas for products and services. It is important that engineers are mixed with the people with other expertise areas to develop better product ideas. This strategic vision is same as REM #3 that asks for mixing people with the best "policies' so that better products/ideas can grow.

The following table provides a summary of key Acer strategic decisions and how they relate to the five rules of REM.

Strategic Decisions	**How they relate to REM**
• Decentralized Management and Decentralized Structure	REM #4
• Local Ownership – Motivation	REM #5
• Fresh Technology for Everyone	REM #1
• A "Client-Server" Business Network – Ability to be Flexible and Fast	None applies here
• Client-Server Operations – Knowledge Transfer	None applies here
• Reorganization – too much innovation	Contradicts REM #2
• Partnership and Outsourcing	None applies here
• Vision: Aspire Park – Taiwan's "*Silicon Paddy*"	REM #5
• Outsourcing	None applies here

5.0 Conclusions

This paper has presented a detailed analysis of Acer's up to date strategic decisions and how they relate to the five rules of REM. It is shown that Acer had carefully articulated its strategy from the very beginning of its formation in all of its decisions from organizational structure, people management, policy decisions, business strategies, etc. that was quite revolutionary in the Asian world. Acer has used innovative management techniques for its operations, human resources management, and diversification and channel strategies. It has been able to allow (almost) complete decision making power to its business units while still leveraging the competencies from these individual autonomous units by

- promoting a management style which promotes individual growth
- innovative operations management using the concepts from JIT
- building a “client server” organization which enables open communication and knowledge transfer
- wisely choosing its partners in successful companies like IBM in US and SNI in Europe.

These strategies have led the company to the stage where it is now faced with the Asian crisis and the growing international competition. Additionally, with the introduction of the internet, the division of labor and capital has disappeared. In other words, the competitive advantage of Acer is gradually going away. Partnership and new product strategies based on internet technologies seem to provide the solution. It has to adapt to the changing world and develop new set of policies. Developing corporate strategies is a phenomenon similar to learning from other species in the animal kingdom, and the five REM provide a basis for developing winning corporate policies.

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REFERENCES

1. Hines, James. (1998). Evolutionary Management: Five Rules For Organizational Improvement.” Systems Thinker. 9(6):1-5.
2. Hines, James and Jody House. (1998). Harnessing Evolution for Organizational Management - presented at the New England Complexity Conference, submitted to Interjournal.
3. Michael S. Scott Morton (Editor), Lester C. Thurow. (1990). The Corporation of the 1990s : Information Technology and Organizational Transformation
4. Hamel, G. and C.K. Prahalal. (1989). Strategic Intent, Harvard Business Review, (May-June): p. 63-76.
5. Hamel, G. and C.K. Prahalal. (1990). The core competence in the corporation, Harvard Business Review, (May-June): pp. 79-91.
6. Collis, David J. and Montgomery, Cynthia A. (1998). Corporate Strategy: Resources and the Scope of the Firm, Chicago: Irwin
7. Gold, Michael and Kathleen Sommers Luchs. (1996). Managing the Multibusiness Company: Strategic Issues for Diversified Groups , London and New York, Routledge
8. Don Lessard. (1998) Framework for Global Competitive Analysis, Technical Note, February

9. Eric K. Clemon. (1991). Evaluation of Strategic Investments in Information Technology, CACM, January, pp 22-36
10. Banzhaf, Wolfgang, Peter Nordin, Robert E. Keller, Frank D. Francone (1998). Genetic Programming., San Francisco, CA: Morgan Kaufman Publishers
11. Brown TA. (1992). Genetics: A Molecular Approach, New York, Chapman & Hall.