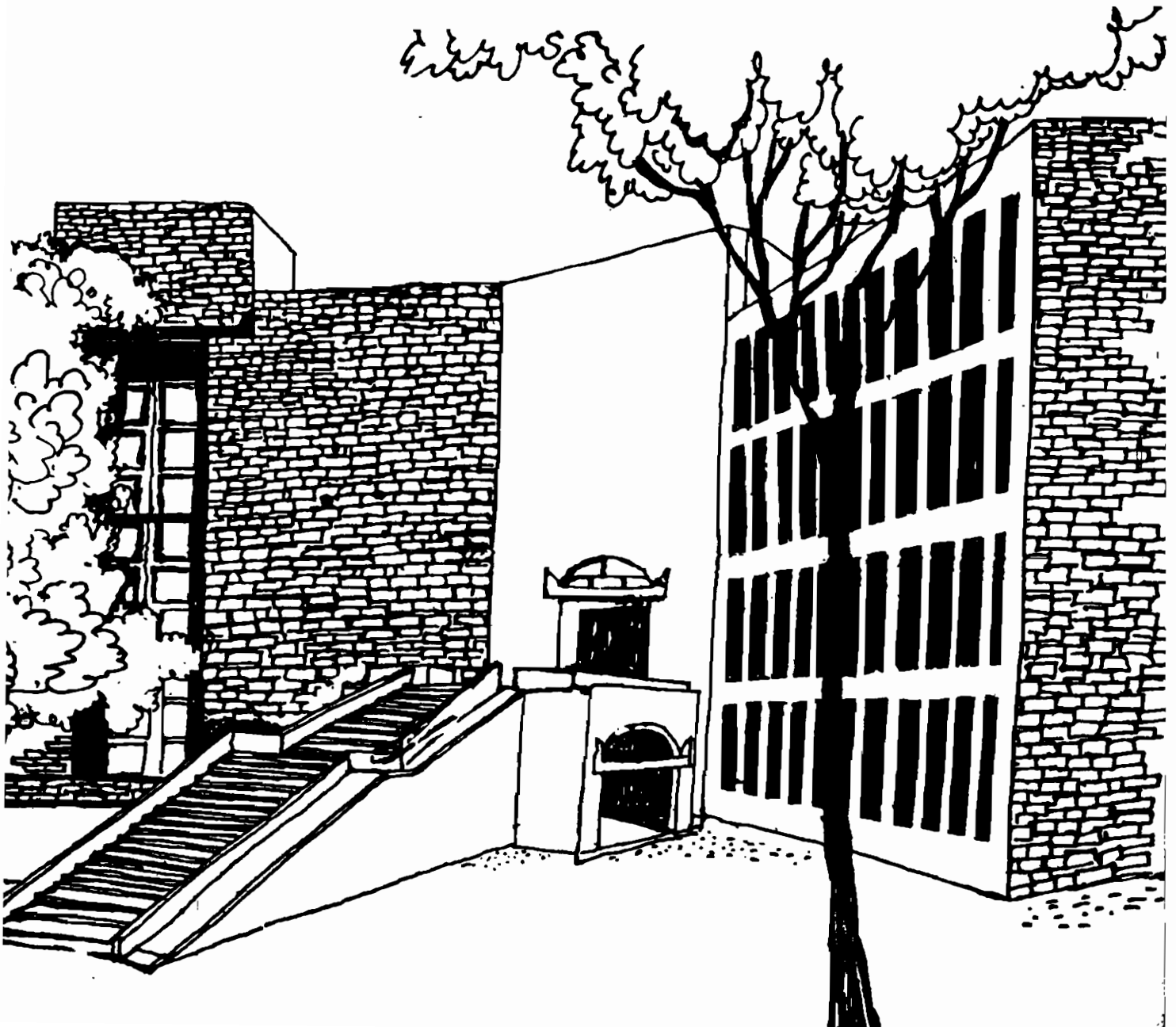




# Working Paper



**TOWARDS MEGA FACULTIES: THE CASE-BASED  
LEARNING OF CORE CAPABILITY DEVELOPMENT  
AND MANAGEMENT**

By

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## Abstract

In this paper, we introduce the concept of mega faculties, corporate abilities to change focal faculties from time to time over the long term. Since it is a tentative concept we propose a case discussion based approach to learn about it using core competence or core capabilities as a proxy for focal faculties. A set of 30 cases is presented and summarised under the broad heads of a) strategic intent and competence development b) competence-based competition and growth c) leveraging competences internally d) leveraging competences externally e) identifying core competences for mega management and f) capstone case(s). Pohang, 3M, Sony Workstation Division, Plus Development Corporation, Acer and Intel are representative cases from each segment of the set. With the set, prospects for the development of the language system and conceptual framework involved in core competence seem high. But there is a major gap in relation to the identification of core competences from a zero base. Until this gap is filled in due course, only first level observations regarding mega faculties can be made. Besides, a discussion of the full set of 30 cases is also pending in MBA and MDP contexts.

## Towards Mega Faculties:

### The Case-based Learning of Core Capability Development and Management.

The focal faculties of the firm {[4],[1]} can be simply defined as firm-specific, knowledge-based management "engines" which can be mixed or matched, internally as well as externally, to drive the corporation successfully from one generation to the next [5]. As such, the firm's focal faculties are largely invisible managerial constructs which are not easy to identify, let alone build for competitive advantage in a systematic way. Indeed, for the latter to happen, there is the pre-supposition that the firm also has a mega-faculty, i.e. an ability to develop and manage new abilities over the long term.

In this paper, our purpose is to advance the understanding and diffusion of a concept such as "mega faculty" by means of the case method. The case method is not only a tried and tested way of diffusing management ideas at low unit cost but also has reasonably high effectiveness. It is also an integrated approach to research and teaching in academic contexts. Its limitations, centering mainly on disclosure issues, do not preclude its use as a first step in consulting contexts as well. In the instance of a concept such as a "mega faculty", the case method comes into operation in three stages. At the first stage, one can review a collection of cases to gain a preliminary understanding of what the concept seems to entail in practical terms. Then a set of existing cases can be used to teach/discuss the ideas involved to secure a better grasp of the subject. Finally, a case (or cases) can be written to more clearly focus on the conceptual issues in real life contexts. These stages need not be purely sequential but can be phase-shifted to achieve a measure of parallelism or simultaneity as well as interactivity.

A further modification may be required by way of focusing, in the first instance, on the more visible parts by the focal faculty spectrum. By now it is widely recognized that core competences or core capabilities (which are interchangeably used terms) constitute building blocks rather than full fledged strategic "edifices". Specifically, we consider them to be building blocks of focal faculties [5]. Thus we use core capabilities as a proxy for focal faculties in order to help us understand the dynamics involved in mega faculties from a set of published cases. This is a necessary prelude for writing cases, ourselves, on focal faculties and mega faculties of firms [6].

The rest of the paper is devoted to summaries of 30 cases. These summaries have intentionally been written to the extent possible from a core competence perspective even though many (if not all) of the cases themselves may not have been written from such a perspective. The progenitors of "core competence" had themselves not supplied a single case to date for discussion purposes [2], conceding perhaps that existing cases are quite sufficient for discussing the idea. The cases therefore constitute a sort of database for an unobtrusive preliminary search for core competence features in a "virtual reality" context. The other advantage of this approach is that it can be independently replicated for validation using either the same or even different sets of cases. In order to drive home our exploratory viewpoint, we have used a five part structure to organize the summaries. These are :

1. Strategic intent and competence development
2. Competence based competition and growth
3. Leveraging competences internally
4. Leveraging competences externally and
5. Identifying core competences for mega management.

This classification is admittedly somewhat arbitrary. The logic of grouping the cases is also not watertight. Moreover, we have used case summaries rather than abstracting from them in a theoretical vein because we believe it is better to discuss the ideas in case contexts than in general [3]. In short, the format has been used only because it may serve our present purposes of inducing a modicum of interest among researchers/teachers. We shall explain later why we placed the identification of core competences towards the end rather than at the beginning of the set. Since there is a relatively large database on one of the companies, we have added a sixth category ("Capstone case") devoted to it.

Following the thirty summaries we conclude with some preliminary observations regarding both the teaching of core competences and research on mega faculties/focal faculties.

## **A STRATEGIC INTENT AND COMPETENCE DEVELOPMENT**

### **1 Pohang Iron & Steel Company (POSCO) ( 693-041 Nov 12, '92)<sup>1</sup>**

In 1968 the World Bank concluded that an integrated steel mill in Korea was infeasible. It opposed a proposal to build one with American collaboration. But POSCO's Chairman, T.J.Park, whose fierce determination (strategic intent) the World Bank had overlooked, turned to the Japanese for help and began construction in 1970 of a million ton plant. In 1978 when the Japanese were requested by China for help in their steel mill construction, they declined reportedly on the grounds that there seemed to be no equivalent of POSCO'S chairman! But by the time POSCO began thinking of a second plant in the early 1980s, when the world steel industry was in recession, even the Japanese initially declined to help because of the competitive threat that POSCO represented. By 1991 both plants totalled 20 million tons in capacity and POSCO's sales touched \$8 billion. POSCO had begun diversification into fine chemicals and telecommunications and was considering entry into engineering semiconductor chip manufacturing and other high tech areas. The question is, how do these fit with POSCO's core competences and what will its strategic intent be when Chairman Park leaves the scene?

### **2 Empresa Brasileira de Aeronautica SA (Abridged) (390-128)**

This case describes the competence building process by which EMBRAER grew within just seven years to dominate the local market as well as carve out a niche in the international market for light aircraft through its global strategy. It illustrates the level of strategic intent required of the leadership in this effort. It also illuminates the role of public enterprises and their advantages not only in accelerating technological development and export promotion but also the building of core competences through international strategic alliances.

### **3 Chaparral Steel: Rapid Product and Process Development (692-018 Rev. 2/18/94)**

Chaparral Steel, one of the foremost companies in American industry, used minimill technology to grow from 235 employees in 1973 to 938 in 1990. Its goal was to become the international low cost supplier of quality steel. It emphasised productivity, flexibility and innovation constantly. Its workforce, drawn from Texan farms, strove for individual growth and teamwork simultaneously under a highly skilled management team, separated by only 2 organizational levels. At Chaparral the rapid translation of technology into finished product was a core capability. The case describes a series of development projects undertaken over a six year period which illustrates how this core organisational capability was built up and leveraged. Technology as knowledge embedded in curious, energetic, communicative people with a mission - competence carriers - is the message conveyed by Chaparral's "learning" organization. The issue posed here has to do with future competence based growth (whether at the same location or elsewhere, in the U.S. or abroad) and its implications, vis a vis the unique Chaparral culture.

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<sup>1</sup> Unless indicated otherwise, all cases are from the Harvard Business School collection. See Exhibit I for an alphabetical listing.

#### **4 The Loss of US Dominance in DRAMs: A Case History (1976-1984). (689-067)**

DRAMs were standard memory chips which accounted for 20% of the total sales of the world chip industry. They had been invented by Americans around 1970 and had served as "technology drivers" for migration to successive generations not only of DRAMs and other memory chips but also the highly profitable microprocessors. By the mid 1980s the Americans ceded almost the entire memory chip business to the Japanese. In a classic case of competence based competition, Japanese electrical and telecommunication equipment manufacturers, with the backing of MITI and NTT cemented their position in the crucial computer industry by the late 1970s. The case provides a fascinating view of the Japanese push for dominance in DRAMs. It is well supplemented by the note, The Global Semiconductor Industry 1987 (388-052 Rev. March 22, '93), which provides a picture of the broader chip industry and its key national and corporate players.

### **B COMPETENCE-BASED COMPETITION AND GROWTH**

#### **1 Canon: Competing on Capabilities (ECCH 392-031-1)**

Canon, "the camera company", entered the photocopying business in the late 1960s, when Xerox held an apparently insurmountable leadership position. But over the next two decades Canon rewrote the rules of the copier business using the formula of "synergistic management...of Canon's knowhow in fine optics, precision mechanics, electronics and fine chemicals". After developing a plain paper copier process which did not violate Xerox patents, Canon launched a stream of products in the 1970s with state of the art technological innovations. In the 1980s it targeted a segment, small offices, ignored by Xerox and developed a revolutionary personal copier to serve it. Canon's innovations relied on focused internal development and extensive outsourcing. The case describes the building of capabilities and the leveraging of expertise at Canon. It also describes the management of the process including entrepreneurship in the business units, integration by functional committees and the management of renewal.

#### **2 Matsushita in India: Preparing Industrial Persons (IIMA: P&IR 160R1)**

The case describes how Matsushita went about establishing its famed manufacturing competences in India in the early 1970s. Choosing dry batteries, a core type product, for which there was unmet demand, it entered into two joint ventures with different parties to produce the same varieties under new brands in greenfield sites in different parts of the country. Both units had to contend with the established Eveready brand as well as with the two units of Toshiba, another new entrant. Focusing on Matsushita's Novino Batteries, the case shows its phased, integrated and long term approach centred on its philosophy of putting "people before product". The business results achieved over a 10 year period by this approach provide an indication of what it may take to adopt a competence based industrial management system in India and other developing countries.

#### **3 Sharp Corporation: Corporate Strategy (N9-793-064 Rev Mar. 22, '93).**

Established in 1912, Sharp derived its name from its founder's invention of "Eversharp" mechanical pencils. Entrepreneurship and technological innovation had been the mainstays of the company. However its new products tended to be imitated quickly and Sharp was viewed as a second-tier company in the consumer electronics industry. However, in the 1970s, Sharp developed semiconductor capabilities which it leveraged into liquid crystal displays, a core product, that gave Sharp a competitive edge and a measure of control in the industry. By 1992 it was regarded as a world leader in opto electronics and a top



electronics company. The case describes the company's evolution including globalization. It also outlines the company's businesses in 1992, its organizational structure and the role of the corporate office. Sharp invested in technologies which would constitute the core of the company in future. However, in 1992, technological uncertainties had increased commensurately with opportunities and Sharp was for the first time considering two major strategic alliances, one with Intel for flash memory and the other with Apple for pocket sized computers.

#### **4 3M: Profile of an Innovating Company (395-016 Jan 3, 95).**

This is a case about a 90 year old company which was widely reputed to be consistently innovative. With a portfolio of over 100 core technologies it leveraged them into over 60,000 products sold in 200 countries to generate \$14 billion in revenues from 88,000 employees in 50 SBUs. The company's long standing policy was that "products belonged to businesses but technologies belonged to the corporation". The case describes the policy changes which were effected and financial results achieved over the company's history. For example, by the late 1960s there was a policy that 25% of each division's sales had to come from new products introduced over the past five years. In 1992, a new CEO raised this target to 30% from products introduced in the last four years. Besides, the informal processes of the early years give way to a more formal and analytical one in later years. Fragmentation had given way to consolidation and manufacturing and cost considerations had assumed considerable importance in an increasingly competitive environment. In view of these developments observers had begun to question the ability of 3M to continue to innovate as before in the years ahead.

#### **5 Toshiba Corporation (A) (ECCH 393-018-1 Interim Format)**

Toshiba originated in a merger in 1939 between a home electric appliance maker and a producer of heavy electrical equipment. It was thus a full-range producer of electrical products. These were organized under five major groups. The case describes each of these and the growth strategies pursued by them. Toshiba president Saba had coined the expression "E & E" (for energy and electronics) to communicate his concept of Toshiba's business. His aim was to integrate its diverse corporate resources to synergistically blend "E & E" technologies. Under Saba, Toshiba was seeking equity positions in high technology firms whose competences complemented the company's international business strategy. Toshiba had resolved "to spare no effort to achieve steady growth in the years ahead".

#### **6 Fujitsu (A) (IIMA: Vikalpa, April-June, 1993)**

This case chronicles the growth of Fujitsu from a) a telephone equipment division of Fuji Electric (a collaboration between Siemens and Furukawa) followed by b) independent status in 1935 to c) the rank of world's second largest computer maker in 1991. It ranked among the top ten companies in computers, semiconductors and telecommunication equipment respectively in the world. The case describes how it spun off units such as FANUC in the early 1970s when it sighted its future in computers. Its internationalisation via bases in peripheral countries such as Spain and Australia and its strategic technology development and OEM supply alliances in Europe and the U.S. in computers and telecommunications are discussed in some detail. The case therefore lends itself to extensive discussion of matters such as core competences (called 'focal faculties' in the Fujitsu case), shared strategic intent and global strategy (especially vis a vis IBM), strategic alliances (including with start-ups like Sun Microsystems), competence based competition, core products (such as semiconductors mainframe modules) etc. The case concludes with the need to decide on how to compete imaginatively in future when economic, technological & international trade issues are increasing in intensity and dynamism. For an update as of 1995, refer to [2].

## **C LEVERAGING COMPETENCES INTERNALLY**

### **1 Walt Disney Co. (A): Corporate Strategy (1-388-147 Rev 26/1/94):**

The Walt Disney Co. began in 1923 as a cartoon studio. Beginning with the launch of the popular animated character of "Mickey Mouse" in 1928, the company expanded steadily into a wide range of businesses including film and TV production, theme parks, consumer products, music and book publishing etc. By 1987 it had become a household name and a leading entertainment corporation with sales of nearly us\$3 billion. The case describes all these businesses and how Disney management sought to enable each one "to draw from, build upon and bolster the others" - in short to leverage its core competences for growth. The over-riding aim was to retain control over the complete entertainment experience and it involved "managing creativity" including training and integrating the workforce. The challenge to Disney Management in 1987 was to meet a goal of 20% p.a. growth in e.p.s. in a manner consistent with the culture, traditions and distinctive identity of a company which still reflected the founders vision and personality 22 years after his passing away.

### **2 Hitachi Seiki (A) (686-104 Rev. Nov. 89)**

When the first NC machine was developed in 1952 in the US, the Japanese machine tool industry launched an urgent catch-up effort. An entire industry geared to mechanical technology had to begin to think eventually in terms of electronics. In 1967, Hitachi Seiki introduced its first comprehensive machining centre and based on customer feedback it quickly followed up with another which proved a hit in Japan. Built in 1972, the Narashino system (FMS 102) was one of the earliest flexible manufacturing systems made in Japan. From 1974, FMS development shifted to Abiko, the goal being untended operations. To achieve the functional coordination required to develop such a system, an Engineering Administration Dept was set up in 1980 and a family of FMSs was designed and installed. Experience gained in a parallel activity of product rationalization was also assimilated. A different developmental focus was applied to each of the three approved systems. The three FMSs were thus developed by a lean team in record time to strict ROI criteria and achieved the goal of untended operation. Leveraging on this experience, Hitachi Seiki soon moved into areas like assembly automation, high precision FMS and full-line FMS in the late 1980s.

### **3 Cooper Industries' Corporate Strategy (391-095 Rev 12/2/92)**

Although Cooper Industries was more than 150 years old, it changed dramatically in size and scope since the late 1960s. It acquired more than 60 domestic manufacturing companies to derive \$4.3 billion in revenues in 1988 from 2 million items marketed under a wide variety of brand names. Cooper focused on (non-complex) products that served basic needs and that were manufactured with mature production technologies. Cooper systematically sought out acquisitions and restructured them to achieve significant manufacturing improvements. One of the key corporate level functions under the CEO was that of "Manufacturing Services" a group of 14 professionals headed by a senior vice president since 1975. Its role was to leverage manufacturing knowhow throughout the company's operating divisions, relying heavily on the participation of local personnel in an attempt to ensure "buy-in". This function was in addition to that of Executive Vice President Operations as well as SVPs of Finance and Administration. The case focuses on the issue of whether or not to acquire Champion Spark Plug, 35% of whose sales were overseas.

#### **4 Sony Corporation: Workstation Division (690-031 Rev March 19, '92).**

Founded in 1945, Sony concentrated almost solely on consumer electronics for forty years. Sony relied on product innovation to create new markets. In 1982, Sony's president set a goal of 50% of sales from non-consumer products. In 1984, a team of 11 top engineers was formed to develop a computer and in June 1987 all computer related divisions were consolidated into one unit called the Super Micro Group. Its Workstation Division leveraged Sony's capabilities in manufacturing and assorted technologies to develop a competitive machine to explore market niches. The case describes new product development in the workstation division which had grown to 100 engineers in 1989, including the original core and many transferred from the other Sony divisions. In 1989 Sony management was considering a proposal to add a Manufacturing Engineering Section of 10 persons to optimize the design for manufacturability and reduce design engineering workload significantly.

#### **5 NEC (693-095 Rev Dec 1, '93)**

Since June 1985 when NEC entered the supercomputer business it introduced a series of remarkable machines to establish itself as a technical leader in the industry. In January 1991, however, the future of the super computer industry looked uncertain. The case focuses on the activities of the (chip) Packaging Engineering Group in the Computer Division of NEC as it was faced with the prospect of obsolescence of its existing capabilities. The group was loosely divided into two parts, one responsible for supercomputers/mainframes and the other for PCs/Workstations. The development of packaging modules for the SX-2 supercomputer and ACOS 1500 mainframe are described. For the immediate future there were projects such as the SX-3R and a new mainframe to keep the group occupied. However, it was necessary for the Group's management to plan the evolution of its engineers over the next decade including the capabilities needed and the choice of projects to build the desired skills.

### **D LEVERAGING COMPETENCES EXTERNALLY**

#### **1 Xerox and Fuji-Xerox (391-156)**

Over a 28 year period to 1990, Fuji Xerox, originally a sales organization for Xerox products in Japan, evolved into a fully integrated operation with strong research, development and manufacturing capabilities in copiers. The case describes the development of these capabilities in the face of competence-based competition from the "Camera" companies, Minolta and Canon, electronics firms such as, IBM, Sharp and Toshiba and Photofilm companies such as Kodak, Ricoh and Konica. Canon had even developed laser printing as an advanced copying technology using digital methods. Xerox had begun to view the alliance with Fuji Xerox as a critical element in competing worldwide against Canon. But the multi-faceted relationship of the two allies (plus Rank Xerox) had its drawbacks in the face of Canon's unified stance. The case therefore focuses on the governance issue of the Xerox-Fuji Xerox relationship, the various options available for cooperation in marketing, research and development, and manufacturing and how these should be structured and managed in future.

#### **2 General Motors' Asian Alliances (388-094)**

The case describes all the major alliances of GM with Asian firms. These include Toyota, FANUC, Isuzu, Suzuki, Nissan, Hitachi and Daewoo. It enables one to contrast alliances formed on the basis of cost considerations with those aimed at competence building. It illuminates the role of core products and end products in the growth process. The case provides an opportunity to discuss the rationale of each alliance, their risks, their management problems and their likely evolution.

### **3 Plus Development Corp. (A)**

**(687-001 Rev 5/88)**

This case describes the development of the 10 megabyte version of a hard disk drive on expansion board for use in the IBM PC. The product and the associated production process are being concurrently developed by Plus in partnership with JEMCO. This brought together strong American competences in product design and marketing with wellknown Japanese competences in process design and manufacturing under a backdrop of severe time-to-market pressures and high first-pass yield expectations. JEMCO moreover was interested in leveraging its VCR based mechatronic competences to enter the computer hardware business for external customers. The case examines many of the basic changes required at the operational level to achieve rapid, coordinated innovations that are first-to-market. The brief background note "Rigid Disk Drives - An Industry Note (692-014 Rev 3/19/92)" provides a broader perspective on the development, marketing and manufacturing competences required of modern disk drive manufacturers in a context of technological and business dynamism.

### **4 Maruti Udyog Ltd: Industrial Analysis & Policy (IIMA: Prod 201)**

In 1982, the Government of India joined hands with Suzuki Motors to establish small car manufacturing for the Indian market. By 1986, Maruti Udyog had made remarkable progress (by Indian standards) in building order books, production capacities, indigenous supply capabilities for a range of automobiles and was poised to transform the Indian automobile industry. Although keen interest began to be shown by international car makers with the prospect of further liberalization of the Indian automobile market, Maruti was able to establish its capabilities without any competence based competition. The case provides details of the approach used in this regard, benchmarking the Maruti project with numerous car projects going forward at the time in various parts of the world. In addition Suzuki's compatriots engaged the local truck maker, Telco, a potential competence based competitor, with LCVs as well as car collaboration proposal and the two wheeler giant, Bajaj, by a barrage of Japanese motorcycles and scooters. The critical problems of changing mindsets of the workforce in a rapid ramp up situation and coordinating with government fiscal policies are also touched upon.

### **5 McDonnell Douglas and Taiwan Aerospace (N9-392-U92 Feb 19, '92)**

In October 1991, McDonnell Douglas was on the verge of selling 40% of stake in the company's commercial aircraft division for \$2 billion to a Taiwanese consortium. Taiwan had huge foreign currency reserves to the tune of over \$70 billion. The government was keen to use this to upgrade the country's technological and employment base. Since 1973, Taiwan had a military aircraft industry which had grown to about 300 parts suppliers by 1991 but it was not geared to the demanding requirements of the commercial airplane business. Besides, Taiwan Aerospace, was a mere startup backed by the government (29%) and big Taiwanese corporations (the rest). However, the government was prepared to underwrite the deal. The case describes the world commercial aircraft business, the players in it, global manufacturing and the dilemmas facing McDonnell Douglas. The issues were: Could the Taiwanese play their part in core competence terms? Was this the best possible offer? Could the cash be raised in the US capital market and would political opposition scuttle or block the deal on the grounds of the "export" of skilled and lucrative US jobs?

## **6 Schlumberger & Fairchild Semiconductor (389-133 Rev June 28, '90).**

Schlumberger incorporated in the Netherlands Antilles was the world's largest firm in the oilfield service industry in the 1980s. It had expanded into businesses outside its traditional operations, including instrumentation, computer-aided systems and semiconductors. The semiconductor business was centred on Fairchild, acquired in 1979. It had pioneered chip technology in the late 1950s. Although its core competences had eroded by the late 1970s, Fairchild owned valuable intellectual property rights in the chip business. By the mid-1980s, Fairchild was in dire straits. So Schlumberger began discussions for the sale of Fairchild to Fujitsu. The proposed transaction was complicated by the tax implications especially in relation to Fairchild's licenses. On top of this, there were political objections from the US about the prospect of a Japanese company getting access to American chip technology. So Fujitsu withdrew its proposal and in its place another American chip company acquired Fairchild at half the price Fujitsu had offered. The case focuses on the options available to Fujitsu and Fairchild for structuring the deal so as to achieve their respective objectives under the prevailing tax laws.

## **E IDENTIFYING CORE COMPETENCES FOR MEGA MANAGEMENT**

### **1 Acer Inc. (691-104 Rev. July 25, '91)**

Acer, originally named Multitech, had grown from nothing in 1976 to a \$1 billion international computer corporation in 1990. In mid-1989 it shipped its one-millionth PC. It was founded by Stan Shih (46) its present CEO. Under him, Acer placed considerable importance on technical capabilities in order to become a "world player". Taiwan's personal computer industry was the largest in Asia next to Japan. However, in 1990 Taiwan's economic growth slowed dramatically and the PC industry was particularly hard hit. Acer's sales and profits came under intense pressure. In January 1991, Stan Shih was contemplating an unprecedented lay-off. New ways had to be found for motivating the work force including leveraging Acer's core competences for growth. Towards this end, the case provides a valuable opportunity to identify the corporation's core competences and to speculate on the arenas where they could be redeployed.

### **2 3M Optical Systems: Managing Corporate Entrepreneurship (395-017 Rev. June 3, '96)**

In 1964 3M had developed "microlouver" technology which was housed in the New Business Ventures Division. Fifteen years later it became part of a more focused Optical Systems (OS) unit but was still not viable. Under a new lab manager, Andy Wong, a 3M veteran, OS added manufacturing facilities in the mid-80s. In 1989, OS was assigned to Wong who became its manager with the charter of leveraging the unit's core competences into high volume applications. After two market failures, the unit came up with a totally redesigned product, a multipurpose filter for use on computer monitors. The case describes the process by which this application was developed including product concept formulation, feasibility assessment and developing the business plan. Distribution arrangements were a question mark to some extent due to previous problems with specialized 3M divisions in this regard. The case, thus illustrates what core competence and its leveraging involves at a truly micro level in a total business and corporate context. (cf, 3M: Profile of an Innovating Company (395-016 Rev. Jan 3, 95).

### **3 Fujitsu Ltd. (ECCH 393-011-1 Interim format)**

In fiscal 1985, Fujitsu Ltd. celebrated its 50th anniversary. While there had been dramatic financial growth in five years, growth in employee numbers was much less. One of the critical areas for Fujitsu had been the rapid development of its office automation business. In 1982, Fujitsu had consolidated the key

technologies required in this arena in a new subsidiary. The core technologies to be integrated were computing, telecommunications and facsimile. The caselet describes the various product introductions in line with its concept of total office automation. The distribution arrangements, especially for penetration of the key US and European markets, are also touched upon. Finally, the linkage with manufacturing is described including centralised production. This facility produced 300 types of OA equipment daily, with a workforce of 1500, 130 computers (which formed an integrated information network) and 106 robots/automatic machines. The system developed by this plant was itself being marketed by a Factory Automation Engineering Division.

#### **4 American Connector Co. (A) (693-035 Rev 12/7/92)**

Electrical connectors were small devices made basically to attach wires to other wires. American Connector was among the second tier companies in this worldwide industry. It had an outstanding reputation for quality which it achieved through inspection, a high cost approach. It also had a reputation for providing excellent technical solutions and many of ACC's custom products had become industry standards. However ACC managers had recently become worried about the impending entry into the US market of DJC (of Japan) which was rumoured to have commissioned one of the most efficient connector plants in the world. The case describes both ACC's & DJC's operations to show the contrast between them. The question is whether ACC should change its approach completely in anticipation of DJC's entry or whether it should adopt a wait and see attitude on the assumption that DJC would follow a completely different approach in the U.S. Who would be willing and able to leverage what more readily than the other in competing for the future connector market? That seems to be the question here.

#### **5 Benetton (A) (685-014)**

By 1982 Benetton had become the world leader in the field of knitwear by specializing in the production and retailing of casual wear clothing items, particularly woollen sweaters, cotton T-shirts and jeans. Benetton was the largest consumer of wool in the world and 60% of the garments sold in its stores were made of wool. Benetton was formed in 1965 by the complementary skills of Luciano a wholesaler and his sister Giuliana, a fashion designer. A brother, Carlo, an engineering draftsman, assumed responsibility for production. Benetton had made a number of innovations in production of its knitwear to achieve a core competence in mechanised fashion when the artisan level was prevalent. By dyeing assembled garments (called gray stock, a core product) rather than yarn, it was able to increase its responsiveness at a lower cost. The case describes all the integrated functional policies at Benetton and poses the issue of launching an assault on the U.S. market which was strong in knitted underwear and hosiery using synthetic yarn.

#### **6 The Transformation of IBM (391-073 Rev 9/9/91)**

1990 had been an excellent year for IBM. But by March 1991 it had lowered its profit forecast due to sales declines in the U.S. and Europe. IBM had been the epitome of a growth company. It was regarded as a most effective recruiter and developer of workers and managers. But technological change during the 1980s, particularly in the form of desktop computing, threatened IBM's market position. Beginning in 1986, its CEO, John Akers had embarked on an ambitious program to transform the company focusing on customer relations, product competition and structural efficiency. He also sought to refocus IBM, cutting back its telecom activities and exiting from copiers, satellite transmission, educational publishing and retail stores. In 1990 he even spun off IBM's typewriters, keyboards and printer business. In a few years IBM had also established 75 equity alliances. In late 1990, IBM was even trying to identify 2 core competences - one in the area of technology and one for marketing. But in early 1991, IBM was considering whether a restructuring was necessary in anticipation of lower growth. In a two-page supplement (792-105 Rev Feb 11, '93) the reorganization plan presented by Akers in Dec '91 is summarised. A year later Akers left IBM after the record losses of 1991 and 1992.

## **7 TI Group: Restructuring and Globalization (690-080 Rev Apr 20, '90)**

A seventy year old company, TI was the second largest engineering firm in the U.K. In 1986, its new CEO, Christopher Lewinton embarked on a radical transformation of the group. A rapid series of divestitures and acquisitions changed it from a fragmented group of mediocre, UK-dominated units into a profitable global corporation focused on three specialized engineering businesses which Lewinton aimed at world leadership positions. The case describes the nature and prospects of each of these new businesses. Lewinton's problem in 1989 was to develop the group's desired core competence in internationalization by catalytically leveraging resources within and among the businesses when the headquarters staff was small. The case enables one to contrast an SBU perspective of TI group with a core competence approach to its future growth and to discuss the problem of identifying existing or potential core competences.

### **F CAPSTONE CASE(S)**

#### **1 Intel Corp. 1988 (389-063 Rev Dec 16, '91)**

Intel was founded in 1968 and quickly pioneered some basic semiconductor products. However, the 1980s proved to be difficult years for the company including the exit from a key line of memory products. It was left with its highly successful line of microprocessors and a broad line of subsystem and system level products which utilized the microprocessor technology. But the latter was threatened by new developments to which Intel had to respond. Besides Intel's American and Japanese competitors were using a competence based approach and were more diversified and vertically integrated respectively. A recent initiative of the company was in specialised large scale computers in an alliance with Siemens. But Intel had a strong culture which created a family like environment for insiders while posing barriers to outsiders in the top levels of management. The key issue in the case is how Intel should chalk out its strategic architecture for competition and growth. The case can be usefully supplemented with the "Note on Microcomputers: Overview of PCs and Workstations" (389-136).

#### **2 Intel Corp - Leveraging Capabilities for Strategic Renewal (394-141 Mar 9 '94)**

Set in early 1991, this case adds two years to the coverage of "Intel Corp. 1988" a short time by normal standards but a long time in the dynamic and volatile semiconductor business in which Intel was a major player. Moreover, the case complements the product line and business information of the previous one with human and organisational insights. For example, Intel's strategic planning process consisted of both business segment strategies as well as capability segments for developing functional capabilities. Besides, while exiting from DRAMs, Intel leveraged its memory competences into microprocessors. Intel also began to complement its innovative design capabilities with efficiencies in manufacturing. At the same time, Intel was planning to re-enter the memory business with new technology and to expand its systems business. Cultural change and management succession were also in the offing at Intel in early 1991. Hence, Intel was again poised at a cross roads as it so often had been over the previous 22 years.



## Conclusions

In this paper we have proposed a casebased approach to learning about "mega faculties" using core competence as a proxy for the lower level concept of focal faculties. We reviewed thirty cases on a wide range of corporate contexts to derive some lessons in this regard. Our conclusions are as follows:

It is possible to develop a facility with the language system and the conceptual framework of core competence through a series of case discussions amounting to a full length course or a two-week management development program. A practical appreciation of major blocks such as competence-based competition, competence-based growth, leveraging of competences internally and externally etc. is quite feasible in such an educational experience. However, a major gap exists as regards identifying core competences de novo in a given situation. For this reason we kept the segment on identification at the end of the course so that some intellectual horsepower could be built up in the other segments prior to this point. Ways may have to be formed to make the core competence identification process an interesting one from a case writing standpoint. Until the identification process becomes clearer it may not be possible to add any meaningful insights to what is already known about elements of mega faculties such as consolidation, leveraging, competitor monitoring and pre-emption etc. In relation to competitor monitoring there is the additional gap of "functionality studies" as opposed to studies of industries with clear boundaries. At least conventional industries studies should add a section on the functionalities involved.

In any event, additional insights into "mega faculties" (which would typically span a period 30 to 50 years) will have to await at least a fullfledged run of a course or MDP along the above lines along with a detailed look at one or two companies perhaps in a consulting context. In conclusion, we would emphasize that a segment on the identification of core competences, whether at the beginning or end of the course is a must. Without it, we would have a course on mere (rather than core) capabilities and/or competence.

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## EXHIBIT 1

### Alphabetical List of Cases

No	Code	Title	Page
1.	E2	3M Optical Systems: Managing Corporate Entrepreneurship	9
2.	B4	3M: Profile of an Innovating Company	5
3.	E1	Acer Inc.	9
4.	E4	American Connector Co. (A)	10
5.	E5	Benetton (A)	10
6.	B1	Canon: Competing on Capabilities	4
7.	A3	Chaparral Steel: Rapid Product and Process Development	3
8.	C3	Cooper Industries' Corporate Strategy	6
9.	A2	Empresa Brasileira de Aeronautica SA (Abridged)	3
10.	B6	Fujitsu (A)	5
11.	E3	Fujitsu Ltd.	9
12.	D2	General Motors' Asian Alliances	7
13.	C2	Hitachi Seiki (A)	6
14.	F1	Intel Corp. 1988	11
15.	F2	Intel Corp - Leveraging Capabilities for Strategic Renewal	11
16.	D5	McDonnell Douglas and Taiwan Aerospace	8
17.	D4	Maruti Udyog Ltd: Industrial Analysis & Policy	8
18.	B2	Matsushita in India: Preparing Industrial Persons	4
19.	C5	NEC	7
20.	D3	Plus Development Corp. (A)	8
21.	A1	Pohang Iron & Steel Company (POSCO)	3
22.	D6	Schlumberger & Fairchild Semiconductor	9
23.	B3	Sharp Corporation: Corporate Strategy	4
24.	C4	Sony Corporation: Workstation Division	7
25.	A4	The Loss of US Dominance in DRAMs: A Case History	4
26.	E6	The Transformation of IBM	10
27.	E7	TI Group: Restructuring and Globalization	11
28.	B5	Toshiba Corporation (A)	5
29.	C1	Walt Disney Co. (A): Corporate Strategy	6
30.	D1	Xerox and Fuji-Xerox	7

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