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Honors Thesis Abstract

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ABSTRACT:

In Search of Excellence, written by Thomas J. Peters and Robert H. Waterman, Jr. studies the excellent practices of a variety of major corporations. These are successful American companies that possess specific qualities and management styles which set them apart from others in their industry. The book covers the time period from 1961 to 1980. This thesis has its inspiration founded in the book's principles. The purpose of this thesis is to study 13 corporations researched in In Search of Excellence - four from high technology, five from manufacturing, and four from services - in an effort to discover the new trends of the '90s.

The companies were researched through three principle methods. First, each company was given extensive library research. Articles mainly from the late '80s to present were obtained from a variety of technical business magazines. Respected newspapers such as the Wall Street Journal and Crain's Chicago Business were used to supplement research. In addition, the company history was researched in order to help clarify the trends of the '90s. Second, the company's annual report was studied to discover the direction the company was heading in the '90s. Essentially, the only information obtained from the annual report were numbers and statistics. Finally, extensive personal interviews were conducted with as many companies as possible. Time and personal circumstances allowed four companies to be interviewed. Interviews from Motorola were obtained from Joseph F. Miraglia, Senior Vice President and Assistant Motorola Director of Personnel; Bill Whelton, Senior Material Control; and Louis A. Respino, Material Control Manager. In addition, a personal internship over the summer of 1993 provided a thorough understanding of Motorola practices and beliefs. John Pettinger, Operations Manager, was interviewed from Federal Express. A phone interview was obtained from Mark Fenner, the Public Relations Manager at 3M. Finally, brief interviews were conducted with associates from Wal-Mart in order to obtain the employees perspective on Wal-Mart's corporate policies.

Research found 10 basic trends of the '90s which include; the virtual corporation, concurrent engineering, outsourcing, empowerment, quality teams, continuous improvement, downsizing, training, customerization, and the environmental movement. The '90s are a period of dramatic change as companies seek survival in a increasingly global marketplace.

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Into the '90s and Beyond

If you drop a frog into boiling water, it will hop right out. But if you place the frog in a pot of cold water and gradually raise the temperature, it will just sit there and boil to death. This analogy may seem pointless but it actually makes an ideal comparison to business today. It is called a paradigm shift (J. Huey, 135). A paradigm is the conventional wisdom about how things should be done. A paradigm shifter is someone or some institution which establishes change - a revolution, not an evolution. Frederick Smith was told by bankers and Yale professors that his package delivery idea was stupid, but Federal Express has changed the way the world ships and receives its mail and packages. Ray Kroc revolutionized the fast food business. His idea of standardized, high quality food has made McDonald's the largest fast food restaurant in the world. These individuals are just two examples of a paradigm shift. Today major corporations are seeking their own paradigm shifters. Business in a global competitive environment requires revolutionary ideas and implementing them quickly. In other words, using the frog analogy, corporations must be ready to jump at change and not simply boil to death in the conventional way of doing things. Those corporations that do not shift get shifted.

Hewlett-Packard is a perfect example of a successful paradigm shift. Back in 1983, the cheapest laser printer could only be used with a mainframe and cost more than $100,000. By

the following year HP introduced its first laser printer at $3,495. This machine instantly shifted the paradigm in the industry. The company currently owns 70 percent of the U.S. market and 55 percent of the world share (J. Huey, 136).

The '90s are going to be a period of dramatic change for the American corporation. The old school of the '80s is very outdated and ineffective for business survival. Today faster decision-making is required in the midst of increased complexity. Hierarchical models are being replaced with matrixes, networks, alliances, and cross-organizational teams. New vocabulary like competitive advantage, customer focus, value creation, business partnership, continuous improvement, leadership and globalization are coming into everyday use.

Essentially, the intent of this paper is to discover the new trends of the '90s. The format of the paper is similar to In Search of Excellence by Thomas J. Peters and Robert H. Waterman Jr. Thirteen American corporations were chosen across the three categories of high technology, manufacturing, and service.

High Technology	**Manufacturing**	**Service**
Intel	General Motors(primarily Saturn)	Delta Airlines
Motorola	3M	Wal-Mart
Hewlett-Packard	Eastman Kodak	McDonald's
IBM	Johnson & Johnson	Federal Express
	Levi Strauss	

The companies chosen needed to be representative of America as a whole. In addition, they were required to fit a set of criteria.

The criteria were as follows:

1. The companies must be leaders in their industry. It was more important that the companies were innovative rather than concerned only with their monetary value.
2. They must be a growing company in a non-declining industry.
3. Companies that were researched in In Search of Excellence were favored over others because it helped serve as a comparison between practices of the late '70s and early '80s to the '90s.
4. The company in general must be profitable. Some of the companies studied have not been profitable in the nineties, IBM is a perfect example. However, these companies are in the midst of restructuring or the industry they are in is in a period of shake-out or change. They actually were the best companies to study because they are in the process of implementing the new thinking of the '90s.

The companies were researched through three principle methods. First, each company was subjected to extensive library research. Recent articles were obtained from a variety of technical business journals. Respected newspapers such as the Wall Street Journal and Crain's Chicago Business were also used to supplement research. In addition, the company history was researched in order to help clarify the trends of the '90s. Second, the companies' annual reports were studied to discover

the direction they were heading in the '90s. The majority of the information obtained from the annual reports were quantitative data. Finally, extensive personal interviews were conducted. Interviews from Motorola were obtained from Joseph F. Miraglia, Senior Vice President and Assistant Motorola Director of Personnel; Bill Whelton, Senior Material Control Manager; and Louis A. Respino, Material Control Manager. In addition, a personal internship over the summer of 1993 provided a thorough understanding of Motorola practices and beliefs. John Pettinger, Operations Manager, was interviewed from Federal Express. The experience provided an actual look at Federal Express's training program. A phone interview was obtained from Mark Fenner, the Public Relations Manager at 3M. Finally, brief interviews were conducted with associates from Wal-Mart in order to obtain the employees' perspectives on Wal-Mart's corporate policies.

The following discussion will give more insight into the companies studied in this paper. It will also provide specific reasons why each company was chosen.

Intel was founded in 1968 with the vision of designing and manufacturing complex silicon chips. In 1971, Intel introduced the first microprocessor, assuring its place in computing history. Today, Intel, the California-based company with operations around the world, is the world's leading microprocessor supplier. It sells principally to original equipment manufacturers that incorporate Intel's product into their own. The company has had tremendous market success

recently. With the introduction of the 486 chip, the semiconductor company went from third to first in just under 12 months. It also went from the 49th to the 22nd largest company in America in that same period of time. Intel is potentially on the verge of another growth explosion, with the introduction of the new Pentium microprocessor. This will be the fastest, most powerful and complex microprocessor ever developed. It has four times the power of the 486. Last year the company had a market value of $24 billion and a $1.06 billion profit on $5.84 billion in sales. With that kind of growth and the worldwide respect the company maintains, Intel was an obvious choice.

As the leader of the old computer industry, IBM faces enormous challenges in finding its place in the new industry. Since 1985, its share of the total computer market, including hardware, software, and services, has slid from 30 percent to less than 19 percent. IBM has already gone through drastic changes by cutting its workforce by a quarter to 300,000 and reducing manufacturing capacity by 40 percent. The company's problems stem mainly from the change away from mainframes, IBM's primary business. In addition, their personal computer is caught in a price war with Compaq Computer Corporation and Dell Computer Corporation. Last year, IBM had a $6 billion loss on $64 billion in sales. For all its troubles IBM is actually an ideal company to study. The company is in crisis and therefore in the midst of massive change. The IBM of the early '80s is already very different from the '90s version.

Motorola is one of the world's leading producers of electronic equipment, systems, components and services. Some of their major products include two-way radios, pagers, cellular telephones, semiconductors, defense and aerospace electronics, computers, and data communications and information processing. Motorola is continuing to push its vision of a wireless world linked by 66 orbiting satellites called the Iridium network. In addition, it has created several joint ventures with foreign telecommunication companies and even signed a $40 million contract with Russia's Khrunichev Enterprises to launch 21 of the Iridium network satellites. The company is experiencing strong growth with sales increasing 17 percent last year. They had $576 million in profits on $13 billion in sales. Motorola's commitment to quality and its goal to become the premier corporation in the world has made Motorola a world leader to follow.

Hewlett-Packard is another high technology computer company which has seen success over the years. They sell printers, electronic computers, and other related computer components. Recent restructurings have made Hewlett-Packard extremely responsive to the global environment. Prior to this change it was not unusual for 90 people on nine committees to take over seven months to decide what to name some software (Bateman, 317). Last year the company had $840 million in profits on $17 billion in sales.

Federal Express Corporation specializes in overnight

delivery of high priority packages, documents, and heavy freight. The company was founded in 1971 by Fredrick W. Smith. Like most companies, it had a rocky start. Smith used $4 million in a personal inheritance and $91 million in venture capital to begin. In 1973 Fed Ex began service in 25 cities with a fleet of 14 Dassault Falcons and 389 employees. The company lost $29 million in the first 26 months of operation. In 1975 it had $43.5 million in sales but lost $11.5 million. By 1976 Fed Ex made its first profit of $3.6 million. The company really began to take-off with deregulation and the implementation of new inventory practices like just-in-time. Today, it has 81,711 employees with sales of $7.69 billion. Like IBM, Fed Ex is interesting to study because it is facing change. Increasing competition is forcing the company to look for other competitive advantages. Their '90s weapon is to create a contented workforce that wants to make Federal Express the best in the world.

Sam Walton had a simple philosophy when he created Wal-Mart, "Say I bought an item for 80 cents. I found that by pricing it at a dollar I could sell three times more of it than by pricing it at $1.20. I might have made only half the profit per item, but because I sold three times as many, the overall profit was greater." ("Sam Walton..", 100). Simple practices like this have made Wal-Mart the largest U.S. discounter. There are over 1,500 Wal-Mart and Sam's Club stores in 35 states with sales growth averaging 30 percent per year. Last year the company earned $1.6 billion on sales of $44 billion. As a comparison of their

growth, a $1,650 investment in 100 Wal-Mart shares in 1970 is now worth $2.7 million today. The company is a model of employee relations and has literally become a benchmark for discounters created before its founding.

Delta Air Lines is assuredly one of America's best managed airlines; some say it is the best. It operates a fleet of 475 owned and leased aircraft. Delta's acquisition of Pan American World Airways made them a global player in air transportation for passengers, freight, and mail. The company is part of an extremely competitive marketplace. The domestic industry losses totaled an estimated $1.7 billion in 1992. Analysts think the main problem is the economic law when supply exceeds demand, prices fall. In other words, too many seats are chasing too few customers. However, Delta is one of the few airlines which is actually growing during these difficult times. In fact, in 1992 Delta experienced a 16 percent growth in the level of employment. With fewer complaints during the past 17 years than any other airline, Delta has become a glimmer in an array of fading stars.

Today, a town's success can be measured by the number of McDonald's. McDonald's, the largest food service organization in the world, has truly become an American tradition. It has been estimated that on any given day seven percent of the American population will visit a McDonald's and 96 percent will visit at least once during the year. The company is now seeking to customerize by accommodating a wider variety of needs and tastes by experimenting with its menu. McDonald's had U.S. sales of

$13.2 billion and foreign sales of $8.6 billion last year. With its employee training, service, and reputation it seems extremely unlikely anyone will ever equal them.

Johnson & Johnson is an international giant in the manufacture and sales of a wide range of consumer and professional pharmaceutical, health-care, and medical products. The key to understanding Johnson & Johnson is its credo. The credo stresses honesty, integrity, and putting people "before profits". An example is the Tylenol case in which eight people died from swallowing poisoned capsules. The company believed that the capsules were altered in the store, not in the factory; however it still recalled all the product, losing almost $240 million in profits instantly. It was this swift action that kept customers loyal. Johnson & Johnson has approximately 84,900 employees and 168 companies operating in 53 countries. Last year it had a $1.6 billion profit on $13.7 billion in sales. Johnson & Johnson has set the standard of decentralization and employee relations, which even major corporations are just beginning to discover.

General Motors is facing the most difficult time in its history. It is not profitable, and it is losing market share to local and foreign competitors. As with IBM and Federal Express, it is this struggle which makes GM good to study. As GM unloads its bloated bureaucracy and focuses on the business of manufacturing and selling high quality cars we will see some real changes. The company's challenge to find success is actually

making them a trend setter of the '90s. They lost $1.05 billion on $8.2 billion in sales. GM's newest experiment, Saturn, is becoming a gold mine for the company. The $1.9 billion manufacturing and assembly complex is implementing the best practices in manufacturing, management and empowerment.

In the '80s, Kodak was rocked by economic and business turbulence with the emergence of formidable competitors around the globe. The company has spent the better part of the last decade rediscovering itself, restructuring to fit its new image, and establishing management processes for the future. Kodak uses an autonomous business structure to successfully sell a wide variety of photographic imaging equipment and supplies, chemicals, healthcare products and information systems. The company had a profit of $1 billion on $20.2 billion in sales.

3M is a diverse, worldwide operation with over 87,600 people in more than 50 countries. The company engineers, manufactures and markets about 60,000 products, across 40 product divisions. It considers itself the "Big Little Company," where extreme versatility is combined with a individual entrepreneurial spirit. Employees are encouraged to maintain an active involvement in the corporation's future. Last year 3M made a profit of $1.3 billion on $13.8 billion in sales.

Levi Strauss is a San Francisco-based company with revenue of more than $4.9 billion and $357 million in net earnings. The company is considered one of the most successful employee empowerment pioneers. The foundations of its success come from

an information system that is highly accessible to people who need to make decisions and act on them. In addition, they have been leaders in creating highly interconnected, mutually beneficial partnerships with suppliers. Their successful supplier network has played a critical role in Levi's growth.

These 13 companies have provided the backbone behind the research to discover the trends of the '90s. Each company adds a special twist to concepts which are beginning to be implemented. By studying the whole, one will inevitably discover what the '90s and beyond will bring.

The paper has been organized around three broad themes - guiding visions, external relations, and process management. The guiding visions section discusses issues related to quality and research and product design. These topics alone are setting the innovative companies apart from the rest. In the external relations section the issues of strategic alliances (or the virtual corporation), supplier relations, customer relations, and the physical environment will be detailed. The focus of this section is the companies' associations with the external environment. The process management section will discuss topics related to restructuring organizations (central decentralization) and employee relations.

CHAPTER 1

RESEARCH AND PRODUCT DESIGN

American corporations over the course of the '80s finally came to a critical defining moment. It was at this time that the realization that the old business strategies were no longer valid to keep American industries strong in today's global environment. One major problem is that American companies have a tendency to focus on the short term. CEOs are expected to build a corporation that has long-term growth and success. Ironically, their performance is evaluated on short-term measures such as return on investment, return on income, or simply by having that final number on the income statement more positive than last year.

Japanese firms are quite different because they are willing to invest heavily in both research and design for as much as two decades, even though cash returns are minimal or none. A perfect example of what happened in the '70s and '80s is the VCR. American firms were the first to introduce VCRs. They were large, complex, and suitable only for professional or industrial uses. Many years of development were needed to bring the products to the mass market. Unfortunately, only Japanese manufacturers invested time and money to perfect the designs. Today, the Japanese are virtually unchallenged as makers of the VCR (Dertouzos, 54). This gets back to the discussion that American corporations have been obsessed with short-term

objectives to keep short-sighted investors happy. Additionally compounding the issue is the fact that many executive compensation schemes are based on short-term performance measures.

As we head into the '90s, American corporations are readjusting that short-term mentality. This mentality begins with new thinking in the area of research and design. In company after company, three basic themes are echoed in the area of research and design. These include design for manufacturability, benchmarking, and time-to-market. Even though they will be discussed individually it is important to remember that these trends are highly interconnected. All the companies within this study are in the process of implementing some variation on each of these trends.

In the '90s, it is absolutely essential that companies replace the "redo it until it's right" philosophy with the "do it right the first time" philosophy (Turino, 191). Critical to this is design for manufacturability. Other terms for this include concurrent engineering, simultaneous engineering, or cross-functional teams. Instead of organizing product development as a linear sequence of departmental events, teams are organized with every functional aspect of the corporation getting involved at the beginning (Teresko, "Project Saturn", 45). This prevents the "the throw it over the wall" syndrome. In other words, a product design does not bounce from engineers, to manufacturers, to engineers, to manufacturers, to marketers, to engineers, etc.

The objective of concurrent engineering is to make the right decisions during nonrecurring activities (Turino, 191). These include, but are not limited to, design, initial purchase of equipment, and initial training. These are activities which ideally should only be done once. Any more than that is a waste of time and money, and it slows time to market. By getting the design right and making good decisions early a corporation is able to maximize productivity during recurring activities such as manufacturing, testing, and servicing. The benefits include reduced cost and quicker time to market. Most importantly, by getting everyone together at the engineering stage, when 70 percent of a project's costs are committed, problems are solved before any implementation begins. A Dataquest study shows that product changes that cost $1,000 during the design phase could easily cost $10 million during final production (Teresko, "Project Saturn", 33). Terrance R. Ozan, director of manufacturing services at Ernst & Young Consulting, estimates that concurrent engineering typically shaves total product costs by 20 percent (Turino, 192).

Hewlett-Packard has implemented the concurrent engineering philosophy to improve manufacturing, administrative, and engineering performance. The program includes management commitment, customer focus, statistical control, problem solving, and total participation by all employees. Over the course of the years, scrap and rework costs were cut by 80 to 95 percent, manufacturing

cycle time reduced by 95 percent, and overall product development time cut by 35 percent (Turino, 191).

Probably the biggest change at General Motors as its heads into the '90s is its perception of quality. GM believes that overcoming the perception of below average quality of the early to mid-'80s is the biggest challenge the company faces. There has been documented improvement. J.D. Power's Vehicle Dependability Index Survey now ranks GM among the best. Other quality gains include 45 percent more durable engines than in 1985, transmission reliability up 50 percent, and electrical system dependability up 60 percent. GM accredits a bulk of their success to a new four-phase process to define and document how to bring a car to market. The program literally puts product engineering, manufacturing, materials management, and plant representatives in the same office, working on the same car. The first phase involves technology and concept development. The product specifications are defined. The second phase is the creation of prototypes. The third phase involves tooling up production parts, establishing assembly facilities, and finalizing the production process. The final phase involves volume production and continuous improvement. The 1991 Caprice was the first car developed using this process. The procedure cut design to production time to about 36 months. Typically, it takes at least five to eight years to completely develop a new automobile. "Ten years ago," says Quality Network director Sue Gatehill, "we would start a vehicle program with a new style or

new engineering idea and survey our customers later. Today, we start a program by understanding customer requirements. This drives the total development process." (Tortolano, 94). In fact, the program worked so well that the team approach has become the foundation of GM's newest Saturn plant.

In the design of GM's electric car it again broke with the traditional practice of producing a new concept car with a group of engineers. The engineers alone missed critical aspects which made the process time consuming and inefficient. In creating the Impact each functional group within the company was included. GM picked 200 individuals from the functional areas, including production workers. Using this approach the team was able to simultaneously tackle problems such as styling, speed, and number of manufacturing components. The team approach accelerated the development process to anticipated finish in four years rather than the original estimate of eight (Teresko,"Project Saturn", 35).

Many organizations are going beyond internal cross-functional teams for their concurrent engineering. The team should consist of all levels of management, operators, technicians, and members from different organizations, including internal and external vendors and customers. Motorola's assembly plant in Austin, Texas introduced a new concept of "internal vendor and customer." For example, if manufacturing processes require processing steps A, B, C, and D in order then the cross-functional team for process B should not only include members

from the functional areas in B, but also members from A and C. In the assembly of microprocessors at the Austin plant, die bond is a process done prior to wire bond. The plant utilized a cross-functional team including members from both processes to discover that a majority of defects were related to the die bond. This formation of the cross-functional team helped improve the die bond process. It has also helped the Austin plant reduce cost, manufacturing time, scrap, and improve the quality of the product (Kumar, 32). These improvements were made possible only by the concurrent efforts of multiple functional areas working together as a team.

3M has cross-functional teams that develop new products. The benefits of these teams have been tremendous. The Occupational Health and Environmental Safety division cut its product development time in half with this process. It also substantially increased the number of major new products. The teams in this division included laboratory, marketing, manufacturing, engineering, quality, packaging, and financial people. In addition, the teams work closely with customers. For example, many of 3M carpet treatments were developed in close consultation with carpet fiber makers (Mitsch, 18). 3M also has a program that fosters the spirit of innovation in its scientists and engineers. Technical people are encouraged to swap information and ideas. Once a year the company holds its own private trade show. Over 115 research labs set up booths displaying the latest technologies. The scientists are easily

able to share information with each other (Huey, 135).

At IBM, cross-functional teams are given another name - multidisciplinary teams. IBM used its multidisciplinary teams to help simplify the designs of its Proprinter Project. The team was charged with the responsibility of designing a printer with a much lower part count. The result was a printer with the number of components being reduced from 160 to 63. What made this team so successful was that the product designers were brought together with manufacturing engineers (Dertouzos, p70).

In addition, in pursuing development of the midrange AS400, IBM included customers, consultants, and software suppliers to join in the design process. This is something that was just not done when Big Blue was a virtual monopoly in the computer world. Today, competition is forcing them to get it right the first time. Bringing people together in teams encourages this. One of the most radical changes at IBM can be found at IBM's PC Company, a $90 billion unit. They have created brand teams. Instead of following the standard IBM formula of organizing by function, the PC Co. split into five groups: the low cost value products, the PS/1, the PS/2, portable products, and the Ambra (a P.C. built by an Asian contractor and sold in Europe). Each team is in charge of its own brand development, manufacturing, pricing, and marketing. Bruce L. Clafin, general manager of the portable products, claims that brand teams have ended the gridlock that developed when everyone only cared about their own functional division. The design people could create it, but the marketing

people would not sell it and manufacturing people could not develop it. Brand teams forced these areas to join forces. The teams had developed 89 products in the first two months. They were also able to reduce cost and therefore reduce prices. Ironically, shipments soared by 30 percent in the first quarter.

A final example comes from Kodak, when, in 1986, it set out to develop a microfilmer. The goal was to produce a cost-effective device that was compact, convenient, and reliable. They knew that competition in this market was tough and time was a major consideration. So Kodak engineers did what was never done before in that division. First, they developed a core team comprised of all product disciplines including marketing, manufacturing, quality assurance, assembly, design, and customer service. This approach headed off problems that surface later after the product is assembled. It was critical in avoiding expensive changes to the prototype. They were able to design the product "from the ground up" in just 21 months, a time virtually unheard of beforehand ("Kodak Tackles..", 200).

Design for manufacturability techniques are necessary when product development is an issue. The goal is for the product development teams to create a product design that optimize customer needs and is cost-worthy to manufacture. The earlier the problems are prevented through careful design, the fewer problems that will have to be corrected later through the time-consuming process of prototype redevelopment (Dertouzos, 128).

A similar, highly interrelated concept is benchmarking. It

is "measuring your performance against that of best-in-class companies, determining how the best-in-class achieve those performance levels, and using the information as the basis for your own company's targets, strategies, and implementation (Lemanski). In fact, benchmarking has become such an important aspect of any successful company that it is now a critical part of the Malcolm Baldridge Quality Award criteria.

Companies worldwide are using benchmarking as an effective tool for improving products, processes, and services. It also prepares employees for change by demonstrating successful practices of other companies. Ed Boyce, a vice president of Vienna, Vir.-based Kaiser Associates, which has helped more companies benchmark than any other consultancy, says his educated guess is that 60 to 70 percent of the largest U.S. companies now have some benchmarking program (Biesada, 32).

To create its line of Bravo electronic pagers, Motorola used benchmarking. The assembly line located in Boynton Beach, Fla. was created by a team that spent a year and a half scurrying around the world, benchmarking. From Weldon of the U.K. came the conveyor system which carry the pagers around the assembly line. For the ordering system, the team looked to Wal-Mart's order entry network. From the upscale clothesmaker, Benetton, came the idea that stores should feed customer preferences back to headquarters (Biesada, 32). This way Motorola gets instant customer feedback. The assembly line was appropriately named the "Bandit" for incorporating all the ideas from other companies.

Since winning the Baldridge Award in 1988 Motorola has literally been inundated with requests to visit its operations firsthand. Joseph F. Miraglia, senior vice president and assistant Motorola director of personnel, has been involved with many such visits. He claims that the practice has become so popular that Motorola now runs thousands of quality programs a year just for such a purpose. Corporations see benchmarking visitors as an opportunity to build better business relations and hopefully learn valuable information in the process. In other words, if Company A allows Company B to benchmark, it is very likely that Company A will also gain from the experience. Richard Dolinsky, director of Employee Development and Quality Performance at Dow U.S.A. states that, "Companies are not reluctant to share nonconfidential information." The Japanese attitude is even more interesting. They believe they can tell anybody how to do things, they just out-execute them (Kiesche, 44).

General Motors has a formal benchmarking program that was created in 1988. John F. Smith, president of GM, says, "We need to compare our plants with similar plants around the world and understand what we are spending our money for and how it compares with how the best of the competition spends their money" (Biesada, 33). Even more recently GM has issued a corporate mandate that every new vehicle must be benchmarked from a program investment and product cost standpoint, before concept initiation can even begin. James Trask is GM's Director of Worldwide

Benchmarking and Business Analysis. He is in charge of a small corporate level group that facilitates the benchmarking process. They work to ensure the benchmarking process is in every major program worldwide (Kobe, "Better Benchmarking", 45).

GM's Saturn plant was the result of a global benchmarking study of 49 GM plants and 60 other companies. It continues to be a major principle by which they live. They actually call it "quality function deployment." Engineers identify product features noticed by customers. They then evaluate competitors' products and try to figure out how to improve aspects in their own products. For example, Saturn workers are quite familiar with the Honda transmission they are trying to beat. Many have a chance to test the Acura and Honda vehicles kept at the plant for comparisons.

Eastman Kodak is a case in point of the potential benefits of benchmarking. The Travel Accounting Group conducted a benchmarking study of how 12 companies, including Kodak, process and manage their travel card entertainment expenses and reimbursements. Detailed surveys were sent to each company and followed up with site visits to Corning, Dupont, and Xerox. Several areas of improvement were found but the most promising is the direct deposit into the traveler's accounts for travel expense reimbursement payments. It alone is expected to save Kodak $100,000 every year (Smith, Paul., 51).

3M is another example of a corporation now taking benchmarking very seriously. They use the process to study the

work environment to reduce cycle times and eliminate redundancies. 3M even has training courses to teach the principles of benchmarking to practitioners and managers. The course is a two and half day workshop.(Kiesche, 44).

It is at this point that another highly related trend can be mentioned. The trend, time-to-market, is actually a major reason why concurrent engineering and benchmarking have become so popular. Quality was the watchword of the '80s, but as Bruce Haupt, President of Insite Management Consulting, told a recent IBM conference on manufacturing, "rapid market entry will become the dominant theme of the '90s." Studies have shown that the first two manufacturers into any new market will end up with 80 percent of the business. Time-to-market is absolutely critical (Vogt, 82).

Marvin Patterson, director of corporate engineering at Hewlett-Packard, says, "If product development slips beyond its scheduled delivery date, it is eating into the most profitable stage of the product's life cycle -- where demand is highest and competitors fewest." At HP it has been estimated that being six months late on any one of the instrument products that normally has a five-year life will cost as much as one third of the total profitability over the life of the product. Being early by six months could increase profits by 25 percent. At HP, reducing the development cycle is an obsession (Teresko, "HP Keeps Reinventing...", 45).

Intel has one of the more interesting product development

schedules. Their main product is microprocessors, or integrated circuits where today's miracle is tomorrow's horse and buggy. To stay ahead of the competition Intel stays on a grueling product introduction schedule. It has several teams simultaneously developing generations of integrated circuits. With the 586 (Pentium) chip just recently completed, the team that developed it has already been shifted to the 786 chip due in 1995. The 686 chip team is due to finish about the end of 1993 and will immediately begin work for the 886. Intel intends to be perpetually ahead of its competitors and cloners (Tanaka, 86).

Motorola believes that no matter how many dramatic improvements are made in manufacturing cycle time, there are still opportunities to improve. Therefore, during 1992 and beyond, Motorola set a goal of cycle time reduction of 10 times improvement in five years. If Motorola accomplishes this it will be a truly world-class in time-based management.

Make no mistake, the commitment to be first in market is extremely expensive. Of the $5.8 billion-in-sales at Intel, nearly $900 million is spent on research and development alone. This is more money than the combined microprocessor sales volume of all its competitors (Wubel, 28). At every corporation, time-to-market is becoming more of an issue. Motorola races to reach its "vision". This is a global phone system in which a person is never out of touch. GM races in a last ditch effort to save itself from its quality reputation. IBM races to again find its niche in an increasing global marketplace. All these goals

require a corporation to get to market early. IBM is a constant reminder of a corporation forgetting how important time to market is. Their inability to get a personal computer to the mass market in a timely manner cost IBM market share -- a mistake unlikely to happen again.

CHAPTER 2

The Prerequisite - Quality

In the early '80s, the quality crusade was a concept some companies followed as a way to gain competitive advantage. Today, quality is no longer a competitive advantage -- it is an absolute necessity. Product loyalty is virtually dead in America. People are no longer buying items simply out of habit; instead they focus on the product's attributes, such as quality and reliability. In other words, bad quality in just one item or one feature of an item could be the stimulus to try a new product.

Today, W. Edwards Deming's theory, known as "The Doctrine of Continuous Improvement" has become the foundation for corporate policy-making in the '90s. It states that companies should make self-improvement an absolute priority. Improvement will naturally lead to enhanced company performance. It has become such an important concept in the "new" American thinking that the United States Department of Commerce now annually awards the Malcolm Baldridge National Quality Award. The award symbolizes the best quality progress over the past year.

Total quality management is a neverending process of continuous improvement. Applying TQM means questioning the things you do, and steadily re-evaluating your position in the market, your customer's needs, and work processes. In a recent survey of world-class manufacturers, titled "Operational

Principles of the 1990s," Gregory M. Seal, National Director for Manufacturing Consulting, and Craig A. Giffi, Senior Manager, both of Touche Ross & Co., stated, "Quality has become a clear prerequisite to competing in the 1990s. Quality will be treated as a commodity. Those without it will not play in the markets. Superior quality will no longer differentiate competitors, but instead will validate a company's worthiness to compete."(Cook, 68).

Quality, however, is not a concept in itself. There are four broad areas in both service and manufacturing where change must occur. The first is teamwork. Instead of "throwing work over the wall", research, design, manufacturing, and marketing need to work together on projects from the start. In other words, companies need to use principles of concurrent engineering to speed and improve processes (see chapter 1). Second, employees need proper training to learn how to function smoothly as a unit. Third, the concepts behind empowerment are needed to ensure that employees are given responsibility for quality (see chapter 8). Finally, rewards and compensation have to be pegged to customer satisfaction as well as financial results.

The pursuit of becoming "best in class" through quality improvement is of critical importance to Motorola. It is now the foundation of every operation the company runs. In 1988, Motorola was a first-year winner of the Baldridge National Quality Award. Motorola began its crusade in the early '80s when the company was reeling from the Japanese attack on its

television and car radio business. In 1981, the company developed a quality goal of 10-times improvement. By 1991, it had set a new goal of 100-fold improvement and Six Sigma capability by 1992. Six Sigma equals 99.9999998 percent defect-free products or 3.4 defects per million. Senior managers meet eight times a year to review progress made toward Six Sigma (Cook, 68).

Its progress has been nothing less than remarkable. On average, manufacturing operations are at about 5.4 Sigma capability or 40 defects per million. Even though it is somewhat short of Motorola's original goal, the results of the program have been tremendous. The company reduced in-process defect levels by 150 times during a five year period. The cost of manufacturing fell by $700 million during 1991 alone and $2.2 billion since the beginning of the Six Sigma program. A significant percentage of these savings comes from saved rework and inspection costs (DeYoung, "The Quality Gospel", 32).

Motorola is continually re-evaluating its pursuit of "kaizen", the Japanese word for continuous improvement. The company has changed its metrics from six defects per million to six defects per billion by the end of the century (Personel interview 2).

Today, Motorola is not alone as a quality leader. Other corporations are developing their own programs and finding success. Federal Express is one such corporation. What makes Fed Ex so unique is that quality was born with the company.

Founder and current Chairman Frederick W. Smith said, "Quality was really part of the culture from the outset. I think it came from the fundamental recognition that in providing time-definite transportation, quality was really all that we were selling." ("Galagan, 32). In 1990, Federal Express became the first service company to win the Baldridge National Quality Award. They believe in doing the right things right because any other way is a waste of time and money. Their slogan is, "If it ain't broke, improve it." (Rohan, 52).

Fed Ex solved the problem of many service companies in the pursuit of quality: how to measure customer satisfaction. Every day the company applies 12 "service quality indicators" (SQIs). These are things which customers hate to happen to them and their packages. Each item is assigned a number from one to 10. For example, a missed pickup or a damaged package is 10 points while a late delivery on the right day is one. The numbers are kept track of on a computerized tracking system called Cosmos. Fed Ex can now measure improvements on a day-to-day basis. In other words, the lower the SQI totals, the better the customer service. The SQI system essentially measures failure rates. It offers a number of advantages such as keeping everyone moving toward 100 percent customer satisfaction and provides the opportunity to monitor problems or trends that are developing (Galahan, 33).

In addition, Fed Ex has instituted a formal Quality Improvement Process (QIP). The program involves Quality Action Teams to get employees involved in the work process by providing

a forum for individuals to solve problems. Fed Ex wants its employees to eliminate problems instead of simply fighting fires. One quality team improved the nightly sorting process at the Memphis Superhub. The results showed dramatic productivity improvement with a net cost savings of $938,000 over an 18-month period. The company now has full-time quality administrators and employee involvement facilitator. They are in charge of communicating the company's QIP messages ("Fed Ex: Employees..", 40).

Before continuing, it is important to make a qualifying note to the use of quality administrators. In organizing effective quality management it is important to have individuals or groups in charge of the implementation and improvement of the system. However, quality can not simply be inspected in. The number of full-time quality administrators will not directly correlate to quality improvement levels. Quality must be implemented on an organizational level.

Hewlett-Packard began the foundations of its Total Quality Control (TQC) program in 1983. It quickly became a "management philosophy and operating methodology." The program begins by getting employees to think quality. To do this it spends between $150 to $200 million worldwide every year to educate its 92,000 employees. Neil M. Johnston, director of Corporate Education, claims that the 140 HP trainers spend more than 50 percent of their time running quality education programs. To get management visibly involved in the process, HP president and past

CEO John Young would often kick off employee orientations and training sessions. This was to impress upon employees that HP was serious about their success in quality improvement. Continual education is essential to the quality program because Johnston estimates that in fast moving technology one half of the knowledge possessed by an HP employee today will become obsolete within four years (Whiting, 113).

The HP Total Quality Control methodology is based on four premises. First, every activity is a process that can be documented and measured. Second, the quality of any process is measured from the customer's point of view. Third, every process can be improved. Finally, total participation is absolutely essential. HP had a Factor of Ten program in the mid '80s which sought to improve quality by 10 percent by the end of the decade. The results of program have been impressive. Manufacturing productivity increased by 15 percent annually for the past five years. Warranty costs have been reduced by $800 million over a decade. At the HP plant in Roseville, Calif. quality improved by a factor of 12.7 percent (Teresko, "Hewlett-Packard Keeps...", 45).

At various manufacturing sites HP utilizes continuous improvement (CI) teams. The CI teams can be formed by any employee to solve a problem or search for an opportunity for improvements. One CI team tracked a wave soldering machine that created an excessive number of "solder bridges". This was causing short circuits on the PC boards. After collecting data

for two or three months, it was discovered that the vendor had changed its recipe in making the soldering product. Once the vendor changed back, the problem disappeared (Sheridan, 27). The CI teams literally empower employees to improve processes.

Eastman Kodak also bases it quality control program on a "quality team" approach that involves employees in the decision making process. It is called the Quality Leadership Process (QLP) and Kodak believes it is a critical investment for the future. The quality teams are united yet independent in their efforts. The teams' only goal is to continuously improve the quality of their work. A quality team is set up with a number of criteria in mind; these include time of service, gender, race, education, department and previous experience. Kodak seeks to have quality teams which are highly diversified (Smith, Paul, 51).

3M operates a plant in Brookings, S.D., to supply products to the health care industry. The plant manufacturers about 1,000 different products with perhaps 100 in production at any one time. Keeping up with the pressures of the industry are increasingly tough because it is estimated that average product lifetime can be less than two years. The implication for management is that flexibility at every level of the operation is mandatory. In the early '80s the Brookings plant began using approaches such as computer-integrated manufacturing (CIM), just-in-time (JIT), and total quality management (TQM). The project focused mainly on the engineering side of plant information

processing. Around 1986, management began a program to encompass the total integration of all information technology in the plant. The new project was named Integrated Manufacturing Systems (IMS). To justify IMS, every possible area of cost savings was identified. The most promise came in areas such as waste management, increased machine utilization, inventory reduction, and faster manufacturing systems. The plant is designed so that more than engineers have access to needed information. This vastly increased the coordination within the plant. 3M was able to take the new competitive environment of the '90s and develop it. Brookings plant is actually a case study in empowerment, concurrent engineering, and quality. Employees are intimately involved in the process of new enhancements and new products. With the implementation of this system, quality improved with a 48 percent reduction in rejects. In addition, the project shows a 30 percent annual savings in costs and time (Waldock, 31).

GM's Saturn plant was created with the goal of quality. The goal of continuous improvement is the basis behind the Saturn plant. The premise of the Saturn plant is that nobody is better than anybody else, that workers are driven by quality and they are intimately involved in the partnership that will build a better product. Employees are put into work groups that come together to solve quality issues. Saturn is now ranked with the Honda Accord in high quality (McGrovy, A2).

Quality today is more than a simple manufacturing problem. It is also a service issue. The idea is total quality -- quality

in the offering itself and in all the service that comes with it. If product quality is basically the same across the industry, service becomes the distinguishing factor. All this has led to the trend of total quality management. For Fed Ex this means not only delivering packages on time but also being able to track those packages. For IBM, a winner of the fall '91 Baldridge Award, it means an electronic customer support system that automatically diagnoses trouble and alerts service people, who have been known to show up before the users know they have a problem. IBM estimates that if it can improve satisfaction one percent for its AS/400 customers worldwide, it will gain more than $200 million over five years (Rose, 97). At Johnson & Johnson, continuous improvement by the QIP process has generated $2.6 million worth of savings in 1990 at their Sherman plant alone.

All top corporations have one thing in common when it comes to quality improvement - quality is no longer an issue, it is an absolute necessity to survival. The important concept to remember is that customers will not always recognize quality. However, they will immediately recognize a substandard product.

CHAPTER 3

Strategic Alliances -

the New Corporate Look

As corporate America heads deeper into the '90s, it is finding that success in business means simply surviving. Slow moving corporate dinosaurs of the '50s and '60s have had to cope with a truly global environment where smaller, responsive organizations have evolved -- a global environment where time to market and high technology are increasingly becoming too expensive and too dangerous for any single corporation.

It is for this reason that when discussing trends of the '90s, one is inevitably drawn to mention strategic alliances, more popularly known today as the "virtual corporation". This trend affects all others and is clearly changing the way business operates. There is growing evidence, especially from the 13 corporations studied here, that joint ventures and strategic alliances are an early glimpse of the organization of the future.

The virtual corporation is a temporary network of companies that come together to take advantage of quickly changing opportunities. Each partner contributes its "core competence" to the organization (Byrne, 99). A perfect example of its beginnings can be found with one man and his idea. Ron Oklewicz, a veteran of Xerox Corporation and Apple Computer, had an idea for a hand-held, pen-based computer, later named Telepad. It was

designed and co-developed by GVO, Inc., a prominent industrial design company in Palo Alto, Calif. An Intel Corporation swat team worked out the engineering problems. Several other companies developed the software for the product. A battery maker developed the portable power supply. Finally, an IBM plant in Charlotte, N.C. manufactured the computer.

The virtual corporation avoids the inefficiencies and costs of vertical integration. Oklewicz said, "We couldn't hire this kind of talent. The hiring alone would have killed us" (Byrne, 101). Oklewicz was able to create a new product without the massive capital requirements usually needed for a new product.

The virtual corporation allows partners to band together to fulfill a need. Then they can disband when the need evaporates. Companies no longer need to have massive, highly risky ventures in areas they are unfamiliar with to create certain attributes of a product. This is a tremendous change from the mid-'70s to late '80s, where the trend was the merger, takeover, or hostile takeover. Corporations believed that owning the company was the cheapest and easiest way to obtain a part for a larger product. The '80s bred large, inefficient corporations that did not excel in their industries. The virtual corporation allows company one to excel and specialize in ABC, while company two excels and specializes in XYZ. In 1991, when Apple lacked the capacity to produce its entire line of PowerBook notebook computers, it turned to Sony Corporation to manufacture the least expensive version. This brought together Apple's easy-to-use software and

Sony's manufacturing skills in miniaturization (Byrne, 102). Apple Computer, i.e. company one, specializing in design and software, i.e. ABC, did not attempt to take over or create an expensive manufacturing facility to build a new line of products. Since Apple does not specialize in the operations of miniaturization, i.e. the XYZ of company two, the attempt would have been highly risky. Furthermore, they would probably never reach a level of quality that Sony could build immediately.

The virtual corporation is not without risks. A company joining such a network loses control of the functions it cedes to its partners. It is an alliance that requires more trust than ever before because the partners are reliant on each other. A sort of "co-destiny" emerges as the fate of one partner hinges on the other (Byrne, 100).

For it to work a number of conditions must be present. First, there must be shared mutual objectives. The who, what, where, why and how must be answered. In July 1991, IBM and Apple joined together to create a brand new chip that they will use in their microprocessors. The companies set up a lab in Texas to develop what they called the Power PC microprocessor. The chip uses RISC, "reduced instruction-set computing" technology, to speed jobs. Motorola helped design and manufacture the chips, set to hit the market sometime in 1993. In addition, IBM and Apple are writing a new operating system called Power Open. This will open communication between IBM and Apple systems, which were previously unable to communicate (Kaeble, 15). In another

related example, Delta, Swissair, and Singapore Airlines formed an alliance to improve service for passengers. They established a computer linkup that now transmits passenger data over the others' systems. The concept is to attract passenger traffic globally and distribute it among the three alliance members. The alliance has no limits, with discussions ranging from supplier issues to maintenance agreements and routes (Kokum, 52). In each of these examples the companies had similar goals. IBM and Apple wanted to become more competitive with a new microchip. Delta, Swissair, and Singapore Airlines wanted benefits ranging from improved service to obtaining better economies of scale by pooling needs with suppliers.

Second, the corporations must have complementary needs. Eastman Kodak has numerous alliances. Kodak Company and Broadcast Television System of Darmstadt, Germany are jointly developing and marketing a scanning device to transfer motion picture film images to high definition television. In March 1993, Kodak formed an alliance with Canon, Inc. to develop microfilm-based products ("Kodak in Joint Venture", D14). Furthermore, Kodak and First Chicago Corporation are truly revolutionary by partnering up to exchange employees. The employees get the opportunity to learn about the other company from the inside out. First Chicago and the Business Imaging Systems division of Kodak did this so that First Chicago could better understand Kodak products such as optical disks, compact discs, and microfilmers. Simultaneously, Kodak could better

understand banking business needs. The program greatly enhanced customer service for both companies. Kodak is now able to design and develop products that help the bank meet its needs. Those involved in the program spent their days in both observation and hands-on work. One exchange employee from the bank actually gave a suggestion for a demand that Kodak employees did not know existed for a particular product (Bunsch, 32). The product is currently in developmental stages.

IBM and Motorola also formed a new company called Ardis, to provide a radio data information service. Ardis will give mobile workers interactive access to various computer databases and information systems via two-way radio data terminals (Epstein, 21).

In each of these examples the companies sought to develop products or services which both had a similar need for. The companies sought to satisfy those needs much faster than would be possible by going it alone.

The third pre-condition for alliances, shared risks, is probably the most important. The cost of commercializing new "mega-technologies" is rising so quickly that even the biggest corporations cannot afford to do the job alone. As high technology gets more complex this is a trend that will become increasingly more prevalent. The corporation who is the "Jack of all trades" will all but disappear in the coming years. Wal-Mart and Cifra Group opened their third Mexican discount club store, Club Aurrera, in Monterrey on Oct. 30, 1992. Club Aurrera is a

joint venture modeled after Wal-Mart's Sam's Clubs. The partners plan to open three or four more Club Aurreras with their first Mexican distribution center in 1993 (Kelly, 2). Hewlett-Packard, 3M, Polaroid, and Software Publishing Corporation came together to create a PC screen onto a full color liquid crystal display overhead projector. The device also makes copies. To reach the market for this product it required the combined effort of these four companies: SPC for the software, HP for the printers and scanners, Polaroid for the slides and transparencies, and 3M for the overhead projectors (Mitcheal, 14). Delta, Northwest Airlines, and Transworld Airlines formed a joint venture in 1990 to develop and market the first global computer reservation system. The three assigned 1,300 of their employees to merge the consortiums of Delta Automated Travel Account System II(DATAS), Computer Reservation System (CRS), and Programmed Airline Reservation System (PARS) into World Span Travel Agency Information Services. The new company's start-up costs exceeded $300 million (Hammer, 5). The individual airlines alone were too small to attempt to create such a feat.

Virtual corporations are not without their failures. Intel and the Japanese companies NMB Semiconductor and Sharp came together to create flash memory chips. Intel was worried that it could not make the sizable investments to retain its lead in this market. The trouble is NMB Semiconductor had trouble getting its line up running last year just as the market was taking off. As a result, Intel could not get all the chips it could sell, and

its share of the market dropped nearly 20 points in one year. Intel's alliance failed for two reasons - a lack of open communication and a partner who was not dependable.

IBM has also had a mixed history with strategic alliances. In 1981 IBM relied on outsiders to bring a personal computer to market quickly. IBM used Intel for the microprocessors and Microsoft Corp. for the operating software. IBM was able to get the product to market in a timely manner, however, the approach also meant that IBM's system was not proprietary. Hundreds of clone makers emerged with lower prices and better products (Byrne, 102). This can be a major downside of alliances.

Whether it is called a virtual corporation, strategic alliance, or joint venture the implications are all the same. Globally, corporations are coming together with no hierarchy, vertical integration, central office, or organizational chart to develop products and services which would be impossible otherwise. Bringing corporations together creates a synergy. Alliances are not a cure-all yet. Most fail because businesses fail to understand each other's needs. Sometimes this comes from lack of trust. Michael Brimm, a management professor at Instead, the European Institute of Business Administration, says that "as the marketplace becomes increasingly complex big companies are realizing they can't do it alone anymore" ("Virtual Corp.", 135).

CHAPTER 4

Suppliers - The Demise of Vertical Integration

In the past, customers regarded their suppliers as a necessary evil. In turn, suppliers viewed their customers only by the size or frequency of their orders. Today, new relationships are being forged between packagers and their suppliers. Outsourcing is looking outside the corporation for services or products. It is a concept that is becoming even more important because corporations often cannot afford to completely vertically integrate. As an example, in the '80s IBM produced the parts, manufacture, distribution and sales of its personal computers. In other words, a vertically integrated company controls the up-line aspects and/or the down-line aspects of the manufacture of a part. Corporations are recognizing that in order to become best in class and reach critical time-to-market, they must sometimes look elsewhere for aspects of a product. In other words, they become a hybrid by balancing what needs to be made in house versus what is outsourced.

The concept is very similar to the virtual corporation, yet different enough to be included in a section of its own. The virtual corporation stresses two or more entities working together to accomplish some task. In outsourcing, the entities work together, but the relationship is more tree-shaped. A

supplier produces the component parts in the manufacture of the companies' product. The traditional American approach toward component supply is for the assembler firm to design the parts in house and then send it out to suppliers to bid on. The contracts are often short-term and subject to cancellation without notice. Suppliers have little or no incentive to invest time and resources to improve the part. The Japanese approach is for the assembler to select a small number of first rate suppliers to design the whole system. The selected suppliers are then given long term and less adversarial contracts. American corporations now are emphasizing building close relationships with fewer suppliers. They are better able to assure quality and find economies of scale. The suppliers themselves are then able to commit more time and research into the corporation's outsourced product.

IBM and Digital Equipment Corporation (DEC) in the '80s were - and to a lesser degree still are - two of the most vertically integrated companies, capable of making almost every part of their products. Ironically, they were also among the worst performers. In the '80s, many considered it a sign of weakness to rely on outside contractors for critical parts or manufacturing. There was a fear that the company risks losing its expertise to foreigners. IBM is a classic example of a company that feared losing proprietary information. Instead of going to outside suppliers for parts, it produced all the critical parts it needed. The problem is it becomes nearly

impossible to create the most cost-conscious quality part for all components of a product. In addition, it becomes very difficult to create a product with a quick time-to-market. Now, even IBM is becoming heavily dependent on suppliers to create its products.

General Motors serves up the most interesting example. It has managed to simultaneously become a model of what outsourcing should and should not be. To help its supplier network, GM developed a "Targets of Excellence" program which rates suppliers on factors such as product quality, cost delivery, technological improvement, and management. Rating teams, which include representatives from purchasing, product engineering, manufacturing, and quality control, access each supplier's operations. GM currently has about 32,000 suppliers, 20 percent fewer than six or seven years ago. Suppliers assure themselves of continued contracts by winning the "Mark of Excellence" award (Tortolano, 94).

GM has a related program called Purchased Input Concept Optimization with Suppliers (PICOS) which help suppliers eliminate waste and other problems that rating teams or internal groups within the suppliers operations find. It focuses on three key areas - quality, service, and price. The process begins with a development engineer who visits the supplier site prior to the workshop. A team is formed from both GM and the supplier. The group then goes through a five-day program and together they decide what changes will be made. Most suppliers find a 40 to

150 percent productivity gain, reduced space needs on factory floors by 40 percent, and cut inventories by 50 percent. John Skladen, VP and General Manager of Seat Belt Products, said, "They helped us on a problem with packaging where we shipped the same product in two different packages for different GM plants. They talked to the right people and got rid of that. It really helped."(Kobe, 30) The biggest payoff for suppliers that can meet GM's tough quality, service, and price targets are lifetime contracts. Not all suppliers come out satisfied with the program but it certainly is a beginning. With GM helping suppliers make improvements they are helping themselves create better, more dependable products.

As was mentioned, GM is also an example of what not to do. Until recently, J. Ignacio Lopez de Arriortua was GM's purchasing czar. He was notorious for demanding price cuts of at least 10 percent from suppliers. Those who refused to cut costs had their contracts re-bid to other suppliers. His chief tactic was opening global contracts for bidding. Suppliers who came in lowest -- without losing quality or service -- got the business. This only led to a seriously disgruntled supplier network which had no trust in being able to maintain GM business. Several suppliers claim that they are now pulling back on research for future GM parts (Kobe, 31). Since the departure of de Arriortua, relations between GM and suppliers are expected to improve.

At one time Hewlett-Packard made everything itself, from cables to die castings. Today they buy more of these components

from a reduced list of suppliers. For example, the supplier base for high volume power supplies has been trimmed down to five from 22 just a few years ago. The process, called supplier partnering, is helping to ensure that HP and suppliers are on a converging path of new technology. Ken Newton, director of corporate procurement, said "Supplier partnering means more than awarding business to prepared suppliers. It means sharing information and establishing multiple levels of commitment that involve top management on both sides of the negotiating table; we feed a lot of data back to suppliers to make sure they understand our needs."(Raia, 32)

Intel, a corporation on the cutting edge of high technology, depends on a reliable, high quality supplier list. To improve quality, Intel knew it would have to put together a supplier quality program first. The program is called the Supplier Continuous Quality Improvement program (SCQI). It has six major elements:

a. Regular communications with suppliers on a daily, weekly, and/or monthly schedule.
b. Continual forecasting of product requirements for suppliers.
c. Commitment to place orders within agreed upon lead-times.
d. Timely database reports on quality statistics.
e. Timely material returns to suppliers for failure analysis.
f. A process to implement and monitor corrective actions.

Intel also agrees to provide engineering and design support to bring any problem products up to standard ("Tracking Quality..", 101). Like GM, Intel is looking to help suppliers grow. If suppliers grow than so will the quality of Intel's product.

Eastman Kodak's "Quality First" (Q1) program is regarded as one of the most advanced and comprehensive quality control programs in the nation. The program has enrolled more than 100 suppliers. Even though it is large, each supplier relationship is based on a one-on-one commitment. In one case is Kodak's eight-year relationship with a supplier of multi-wall bags. A close relationship has caused the defect rate for the bag to drop from approximately 10,000 per million to nearly zero for the past five years. James Schirmer, Unit Director of Supplier Quality at Kodak, said, "We work to give our suppliers a better understanding of our performance expectations, and the expectations of our ultimate customers." The supplier personnel of the multi-wall bag were even able to suggest improvements to the bag from this program ("New Sense of Teamwork..", 16).

Levi Strauss, the San Francisco-based company, with revenue of more than $4.9 billion and $357 million in net earnings in 1991, is considered very successful with its supplier program. The company is creating a vertical organization with information technology that connects suppliers, manufacturers, and retailers through a "perfect information exchange." That way the textile supplier or a retailer knows exactly what Levi Strauss is producing and what they are going to need. The company wants its

suppliers and retailers to take an active part in the process (Broussell, 120).

IBM also has been taking a close look at the make vs. buy decision. They have come to the conclusion that they cannot build everything. In fact, recently IBM has even begun to invest money into their supplier base to help accelerate development. For example, IBM invested cash into Bachman Information Systems to help the CASE (Computer aided software engineering) supplier accelerate development of products with the OS/2 Extended Edition, the operating system for IBM PS/2 line of desktop computers (Moad, 35). Essentially IBM is searching for ways to improve products by seeking the specialization of others to build important aspects of these products.

Suppliers are critical team members who must be educated, valued, and treated as equals throughout the quality process. Selection of suppliers simply on price is foolish. Instead corporations are looking to reduce their supplier base and develop close relationships with these few. GM, HP, Intel and IBM are developing a smaller supplier list with intensive training and personal assistance to make their suppliers better able to compete in the global market. 3M provides the most dramatic example of this reduction in suppliers. In 1983 3M had 1,240 carriers. By 1991 100 carriers handled 98 percent of the business. Its suppliers now have a spirit of partnership which is comfortable to both parties (Commins, 28). It is these closer, more secure relationships which will have a dramatic

effect on a corporations' time to market, quality and supplier reliability in the '90s and beyond.

CHAPTER 5

Customers - The New Relationship

In today's global corporate environment the most basic concepts can set a corporation apart. One of these concepts, customerization, means to make a company more responsive to its customers and better able to attract new ones. It is not a complicated or even an original idea, but it is often forgotten. Customers, not the ingenuity of the engineer, drive the entire process. Successful firms identify shifts in demand by staying in close and continuous contact with customers. The organization must be able to respond quickly to what customers and markets are saying. In this way, they can tailor their products to satisfy diverse needs. There are a number of ways in which a company can follow the principal of customerization. The examples discussed here will certainly suggest the direction this concept is heading in the '90s.

IBM's Rochester, Minn. plant uses a variety of strategies in its manufacturing. These range from statistical process control (SPC) to sophisticated design tools. It is the manufacturing site for IBM's storage systems division and computer products such at the AS/400. For all its sophistication and size, IBM has found that its most effective method of encouraging customer input and loyalty is to create Customer Advisory Councils. These are groups of about 20 customers who meet during the year to let the people at Rochester know their thoughts on IBM's product

lines. IBM believes that quality starts with design quality and design quality starts with customer input (Sheridan, 27). Largely due to the efforts of these groups, IBM designed the Rochester plant to be able to customerize the AS/400. The computer is able to come in a variety of configurations to suit individual needs. In addition, Help Ware was created as a telephone support service that is intended to provide quick answers to users of the company's advanced PS/2 machine and OS/2 operating system ("IBM Offers New..", D18). With customer help IBM-Rochester has already decided to follow Motorola's lead and embark on a program to achieve Six Sigma standards by 1994 (refer to Chapter 2 for Motorola and its pursuit of Six Sigma quality).

"The best way to find ideas," said CEO David Glass, "is to go where the customers go." Wal-Mart executives believe that customers will tell the company what goods they want to buy before the marketing survey can. Sam Walton used to make it habit to visit every Wal-Mart in the nation at least once. No small feat when the company has 1500 Wal-Mart and Sam's Club stores. That tradition is still carried on by Glass and other executives by spending at least two days a week visiting stores. Wal-Mart is also one of a number of companies which is using information technology to gain competitive advantage. It has a satellite communication system from Hughes Network Systems which allows speeding of credit authorization by 25 percent, and improved data communication between headquarters, the stores, and other facilities.

Motorola is a true believer that customer feedback is critical in anticipating solutions and service needs. In fact, all employees are given a card which states "Our Fundamental Objective (Everyone's Overriding Responsibility) - Total Customer Satisfaction." Joseph Miraglia, Senior Vice President and Assistant Motorola Director of Personnel, said, "Value added to the customer permits you to have a job." All the bells and whistles of technology will not sell unless the customer has perceived use of the product. Therefore, Motorola has developed customer driven satisfaction indices - using factors established by the customer to set aggressive improvement goals. The measurements are designed to vary, not only across sectors and groups, but by type of customer. At Motorola's "Bandit" facility in Boynton Beach, Fla. they are able to customerize products. The Bandit line creates alphanumeric radio pagers in lot sizes of one. A customerized pager can be made within 20 minutes from when a salesman enters a rush order into the computer. The line employed a number of techniques mentioned in early chapters to create the quality improvements (see Chapter 1). For one, it developed a supplier selection process which reduced the number from 300 to 22 best sole-source suppliers. Second, they utilized SPC charts which shut down the line automatically if a problem develops. Customerization and quality are absolutely critical in the vast market of radio pagers (Sheridan, 28).

Kodak, GM, and 3M all have similar programs which enlist the input of customers. The more competitive the industry, the more

obvious this trend becomes. In these examples customerization can be summed up in one statement - it is to improve quality by obtaining the input from those who use the product or service the most. Customer input creates satisfaction and loyalty to a product. In addition, a satisfied customer will recommend a product to others. Ideally, this would make the engineer the design implementor, not the idea generator. As other industries become more globally competitive they will be forced to establish programs themselves.

CHAPTER 6

The Environment -

The Unwritten Rule

World class manufacturers and service industries are increasingly incorporating environmental concerns within their marketing and operational strategies. Many are making it a critical part of their corporate culture. It does not require much explanation, but it is an important topic for a number of compounding reasons. First, we all have an obvious responsibility to take care of the fragile environment. Second, government is far too bureaucratic and political to effectively handle the issue. Therefore, it is industry and its corporate leaders which must protect the environment. There is a moral obligation today to have a concern for the environment and in fact be a environmentalist. However, this is not environmentalism being discussed here. The '90s trend is to go above and beyond government standards and develop processes which are pollution-free at whatever the cost. Most of corporate America has not progressed this far for a variety of reasons. In fact, many of the companies studied within this paper do not have a '90s version of environmentalism. However, the companies that have programs are finding them to be very profitable both for monetary and political reasons.

Kodak has articulated a formal program to guide and assist

managers in incorporating environmental responsibility into their business operations. It essentially gives managers the opportunity to practice their environmental responsibility without fear of ridicule or negative career implications within their own organizations. Innovations have effected a more than 90 percent reduction in chemical use, 60 to 80 percent reduction in waste by-products, and a 99 percent recovery of silver from waste water. Furthermore, many of Kodak's products are being designed for recycling programs. The Fun Saver Camera series is an excellent example. Over six million have been returned to Kodak from a worldwide recovery program. From there nearly 86 percent of the components can be recycled or reused (Poduska, 287).

Hewlett-Packard has built a model program of corporate waste reduction and resource conservation. The program began in 1989 when the Fort Collus division of HP consolidated its corporate recycling programs together with employee generated recycling under one department. The program involves virtually 100 percent of the division's 3,000 employees. It has recycling programs for white paper products, colored paper products, shredded paper, aluminum cans, metals, batteries, plastics, and even leftover food. The company goes a step further by actively seeking recycled products for purchase (Reed, 20). Today, HP has begun recycling old computer equipment and is discovering that it yields lower costs and higher quality. The recycled materials are actually better than fresh resins (plastic structures)

(Gosch, 10).

Wal-Mart plays a leading role in promoting environmental awareness to its shoppers. It was the first retailer to publicly call for more environmentally friendly products from vendors. Products that meet environmental product and packaging requirements are marked with a red tag on the shelves. The company seeks to highlight the environmental improvements. The Wal-Mart environmental Advisory Board, which meets quarterly, is responsible for advising the corporation on environmental policy. They plan on one day opening a Wal-Mart store that will concentrate on the environment by containing environmental classrooms for customers and associates alike, recycling bins and a modern recycling center (Fisher, 20).

Delta Airlines became the first airline to use technology which reduces the pollution associated with the cleaning of jet engine components. The company installed a Automated Robotic Maintenance System (ARMS) which uses a high-pressure waterjet process to strip and clean the jet engine components. This water-based technology replaces the conventional acid bath and grit blasting method of cleaning. It is designed to improve efficiency and virtually eliminate environmentally harmful waste byproducts (Fink, 13).

Intel developed a waste recycling program which actually saved them money. The program involved trying to recycle at least 50 percent of its laser printer cartridges. Intel now saves nearly $30,000 a year from this program alone (Mathusi,

17).

Many companies today are faced with an environmental dilemma. On the one hand, a weakened economy is forcing executives to focus on short-term objectives. This means cutting the bottom line in order to show improved performance. Essentially, environmental programs are seen as expensive with little or no gain expected in the short-term. On the other hand, customer awareness and ethical behavior suggests that executives invest the time and resources in environmental programs. In reality, companies such as Wal-Mart, Kodak, Hewlett-Packard, and Delta show that a properly structured program will satisfy both these needs.

CHAPTER 7

Central Decentralization and Boardroom Clout

Two trends that had their real beginnings in the mid-'80s are decentralization and a flatter hierarchy. It was also the '80s that forced this new development. The '80s was a period of mega-mergers, deal making, and explosive growth. It produced enormous centralized corporations that were bureaucracies, as slow and inefficient as that stereotype implies. With today's growing global economy, a bloated bureaucracy spells certain disaster. Therefore, corporations are increasingly being forced to restructure. In almost all the corporations studied here there was a definite move to restructure.

Decentralization essentially breaks the corporation into smaller, more responsive units. Even though it was the "buzzword" of the mid to late '80s, the '90s has created a new twist. Corporations embraced the concept and proceeded to produce very decentralized business units. Decentralization has its benefits because it actually reduces bureaucracy and empowers employees. However, it also tends to create some levels of inefficiency. For example, different corporate units would be ordering the same part from the same vendor at similar times. The problem with this is that it produced two contract negotiations. Ideally, the business units should combine

purchasing activities to gain maximum economies of scale. So, while corporations today are still moving toward decentralization, they are keeping certain areas such as purchasing centralized.

In addition, in the '90s the trend is to stop dividing the company by functional units and divide it by product instead. Therefore, a collection of all interested parties (marketing, finance, manufacturing, etc.) are brought together to create the best possible service or product. Basically, decentralization is concurrent engineering on a larger scale.

Another related aspect is a new tendency of American corporations to break down the hierarchy. They are beginning to develop a flatter organizational structure. In Japan, the hierarchy has fewer levels and is layered, rather than strictly treelike. In other words, people in one level communicate with people in the next higher and next lower level regardless of departmental boundaries. American firms tend to be more tree-shaped. There is little cross-departmental communication (Dertouzos, 95). A reduced hierarchy produces greater speed in product development and greater responsiveness to changing markets.

IBM is the most dramatic example of a restructuring. In December 1991, IBM announced that it was breaking the corporation down into 13 autonomous businesses, each with its own balance sheet, profit and loss accounts, and financial targets ("Four Friends...", 14). This was done in an effort to make it leaner

and more manageable. Nine are manufacturing and development businesses that produce hardware and software. Four are geographic, organized by marketing and services which sell what the manufacturing and development lines make. IBM was striving for keirestsu -- a group of internal companies with common goals but substantial independence to seek out and exploit business opportunities individually (Kirkpatrick, 45).

Each Baby Blue general manager signed a contract with the corporate management committee agreeing to targets in seven areas: revenue growth, profit, return on assets, cash flow, customer satisfaction, quality, and employee morale. If targets are exceeded, there are bonuses. If targets are consistently not met, the general manager of that internal company is replaced. Robert LaBart, head of IBM North America, says, "This has unleashed an unbelievable amount of energy and creativity like I've never seen before. It's exciting. It leaves me breathless." (Kirkpatrick, 47).

A successful example of IBM's new decentralized move can be found in the IBM PC Co. This is a $9 billion unit, created in September 1992, to stop the loss of market share in the personal computer market. A year ago, IBM was selling overpriced, outdated PCs and losing roughly $1 billion annually. Today, the subsidiary has stopped the loss of market share and has started making money. IBM's share of the PC market went from 10.9 percent last year to 14.9 percent in this year's first quarter (Arnst, 45). The entrepreneur spirit was created by giving the unit autonomy

over its marketing, distribution, manufacturing, product development, advertising and public relations.

In late March, striving to find success similar to IBM PC Co., IBM Europe chairman Renato Riverso finished a year-long effort to slice the continent of Europe into about 200 autonomous business units, each with its own profit plan, employee incentives, and customer focus. "We used to manage from the top, like an army," he said. "Now, we're trying to create entities that drive themselves." The early results are promising, showing an average of 3 percent higher profit margins in 1992 (Levine, 45).

It is very risky, however, because the new marketing units are free to negotiate for products and services from other IBM entities and can even seek outside suppliers, which could waste time fighting over prices rather than focusing on customer needs (Levine, 45). Also there is a risk that these units will end up competing with each other. James Cannavino, the general manager of Personal Systems (IBM Baby Blue in PCs) says,

> "The reality now is that there is going to be a product overlap. That may mean we are going after businesses that Nick (general manager, Enterprises Systems, mainframe manufacturer) wants. I'm not going to make my products worse so Nick wins. But I'm not going to feel bad if Nick wins, and I'll feel terrible if Hewlett-Packard wins. I'm going to make whatever is competitive in the industry, period."(Kirkpatrick, 45).

IBM is now taking decentralization to new levels and is actually becoming a leader in the concept. Many corporations are finding they can cut overhead and additional expenses by getting out of the benefits business and handing it over to consultants.

IBM found a rather unique approach by spinning off the benefits staff and setting up a small corporation, Workforce Solutions. IBM is forcing the benefits staff to become more entrepreneurial. The new organization provides all human resources support to the 13 units, but can tailor them to individual needs. Customizing benefits is a radical change for IBM, who is used to keeping benefits the same across the board. The changeover is saving IBM about $45 million annually from reduced staffing, consolidation of offices, and new technology such as automated telephones. After the first year, IBM units can choose whatever benefits company they want. This forces Workforce Solutions to keep their focus on keeping customers. IBM hopes that it will eventually become a profit center on its own (Smart, 58).

As was mentioned earlier, decentralization has a '90s twist. Over the last two years IBM has completely reorganized its equipment and procurement procedures by taking authority away from individual production lines and centralizing all decisions on vendors under a Strategic Equipment Council (SEC). Now all IBM facilities must select from a list of vendors approved by the Council or go through the red tape involved in the exemption process. The company is better able to negotiate volume discounts and can now simplify maintenance and training (Dunn, 4).

Johnson & Johnson has been a model of decentralization. The presidents of its 166 separately chartered companies are not just encouraged to act independently, they are expected to. They

prepare budgets, marketing plans, and may oversee their own research and development. Some functions of the company are handled by headquarters such as a customer service, while others are pooled, like computer services, purchasing, distribution, and accounts payable ("A Big Company..", 125).

Eastman Kodak serves as a perfect example of a corporation before and after decentralization. In the '70s Kodak had a functional structure. There were a number of problems. First, the functional structure made no group responsible for performance of products. Second, costs were too high. Finally, bottom line information was not being shared and strategic planning was being developed by staff groups but not implemented by line departments (Wiesendanger, 62). The company abandoned its functionally organized structure in the late '80s in favor of a structure built around business units. It was organized into five business groups containing nearly 30 independent business units (Boroski, 46). They are not completely autonomous but have enough freedom to look to new and unique ways to grow. Each business unit is subject to periodic evaluation of its earnings and value. They are expected to earn a return that exceeds expected risk and market conditions. Immediately following the restructure, Kodak's performance improved several years in a row, at a rate four times the U.S. average (Wiesendanger, 63). The problem with this periodic evaluation is it tends to stress the importance of short-term objectives again. This is a mistake many corporations made in the '90s. Kodak needs to determine

responsibility is shared by both managing director of the subsidiary and product manager. Harry Hammerly, executive vice president of international operations and corporate service, said about structure that, "conflicts naturally arise, but healthy conflict ensures that all the necessary issues have been addressed." (Hammerly, Harry., 8).

Hewlett-Packard has a policy over splitting any division that accumulates more than 1500 workers. Each division has its own engineering, marketing, manufacturing and personnel staffs. Furthermore, only four levels of management separate HP chairman David Packard from an assembly line worker (Puta, 149).

Hewlett-Packard is another example of a highly decentralized organization that is attempting to centralize certain areas. It is organized in 58 divisions. Divisional materials and purchasing managers basically set their own agendas for day to day dealings with suppliers. However, they have a unique approach to working together. Procurement strategy boards (PSBs) have been established for key commodities used across the board, or at least across several divisions. Together they develop corporate contracts to leverage buying power. The procurement council meets quarterly to discuss issues such as corporate procurement strategies, R & D procurement goals, parts standardization, supplier improvement and the annual report.

Intel has five locations in the U.S. and each used to have its own purchasing department that worked autonomously. There was virtually no accountability to corporate headquarters. Intel

restructured its purchasing departments to eliminate the redundant activities. It was able to reduce cost by 15 percent with this new, more centralized structure. Due to higher volume, the company has established national contracts, reduced the supplier base, controlled costs, standardized equipment, and increased negotiating power. Site buyers at each plant work collectively in office product commodity management teams. The teams are made up of commodity managers, site buyers and sometimes customers (Intel employees) (Evans-Correra, 54). The key to Intel's success is that each site buyer can purchase for its own unique needs, but has the clout, protection and collective expertise of the commodity groups, which provide input, buying power, systems contracts, and stability.

Corporations today are truly seeking centralized decentralization. It keeps the corporation more flexible but still maintains certain cohesiveness in areas were economies of scale and standardization are critical. Areas such as purchasing, employee benefits, and corporate strategy development are examples where it is more effective to handle the issues as a whole corporation.

In addition, a related trend kept coming out in the course of studying today's organizations. While there is the '90s version of decentralization there is also the '90s version of the board of directors. The board plays a critical role in the organization of a corporation. For this reason, it fits comfortably within the themes of this chapter. In the '80s,

boards of directors had notorious reputations for simply following the whims of the chief executive officer. All too often boards relied on their CEOs to pull them through good times and bad. The '90s have created a new paradigm, a truly responsive and sometimes ruthless board that seeks results. CEOs are being ostracized or forced into resignation for poor performance. The examples are numerous. The forced departures of General Motors CEO Robert Stempel and IBM's John Akers are a true indication of changing times. Another example is the firing of Sunbeam's CEO, Paul Kazarian, for ineffective employee management. The biggest implication is that management cannot hide. Stockholders and independent directors are more liable to bring in new management. The board is no longer the "club" with fancy dinners, who avoided real corporate problems (Dobizynski, 87).

John F. Akers was "pressured" into early retirement when IBM results continued to show poor performance. IBM, facing hard times, did something very unusual for a company so well known for its culture -- it hired an outsider. Akers' replacement, Louis V. Gerstner Jr. from RJR Nabisco Foods, has no technical computer experience, but the board is hoping that is exactly what IBM needs. This could theoretically break up the old IBM culture which is not creating results.

Corporate boards today are creating conditions that force performance from executives. At Eastman Kodak, the board announced on Jan. 13, 1993 that its top 40 executives will be

required to invest the equivalent of one to four times their base salary in Kodak stock. Kodak chairman Kay R. Whitmore says he will buy stock equal in value to four times his salary of $957,693. Major share ownership forces managers to act like owners in the corporation.

Another related trend is corporate downsizing. However, it is a continuously changing concept. Only 12 percent of corporations with over 25,000 or more employees expect to add jobs, while 36 percent anticipate layoffs (Koretz, 24). IBM recently announced its plans to eliminate 20,000 jobs. Downsizing is not having the effects companies are looking for. It does not necessarily improve profitability but it certainly causes some serious morale problems. A Wyatt survey of more than 1000 companies last year found that restructuring failed to produce the expected savings 64 percent of the time, often because layoffs become temporary (Lesly, 100). Companies end up replacing cut staff within a few years and start the process over again. In light of downsizing's poor record, some companies are trying other methods.

Hewlett-Packard has a worthwhile approach to corporate downsizing. The downsizing effort at the Colorado Division of HP required finding alternative opportunities for more than 400 employees. HP tries to preserve its policy of no layoffs. Their theme for the work force balancing effort was to provide options for employees to make voluntary choices. They were given the opportunity to choose from a number of programs:

a. regional redistribution - this allows surplus employees to move to other divisions within the region;
b. relocation program - eligible employees from surplus area were given priority over non-surplus areas to move to another HP location, the company paying for expenses;
c. loan program - the employees go to divisions that need help until a permanent position is found;
d. reclassification - some employees prefer to stay in their location even if it means totally a different job and sometimes lower pay -- the Colorado division had 40 such individuals;
e. voluntary early retirement and severance incentives.

These programs are designed to prevent HP from losing assets that have been invested in over the years. In addition, it helps alleviate stress by employees who remain at the corporation (Francis, 71).

Delta Airlines is the nation's number three carrier. It is having financial problems like the other airlines. Airlines are having hard times due in part to high fuel prices, airfare wars, and inefficient resources. Delta, however, is not laying off people, it is hiring. In fact it has never resorted to layoffs. Chairman and CEO Ronald W. Allen says, "It's absolutely essential that Delta treat its employees well. You're serving customers. We want to do it in a courteous way. If you want to do that, you must have a loyal and dedicated crew." With worker earnings 21 percent higher than the industry average and a policy of no

layoffs, Delta is creating extreme loyalty from its employees. The machinist's union, for example, reports that it is difficult to organize Delta employees because the company maintains pay and benefits above its unionized competition. There is no incentive to organize (Lubove, 36).

3M and Federal Express are also committed to downsizing without layoffs. When ZAP mail was discontinued, 1,300 people were affected, but no jobs were lost. Fed Ex believes a secure environment encourages risk taking and innovation (Smith, "Empowering Employees", 15). At 3M's divisions, excess workers are found similar work at other divisions. Over the past decade 3M has reassigned about 3,500 workers this way (Lesly, 101).

Centralized decentralization, new activity from corporate board of directors, and the new alternatives to downsizing are the newest organizational trends in the '90s. Centralized decentralization attempts to make employees more accountable by spreading authority to individual divisions. Simultaneously, corporations are attempting to pool their resources in certain areas to improve efficiency. The '90s board of directors has become more responsive by forcing CEOs and top executives to show performance and leadership. Finally, corporations are slowly finding other means of reducing employee numbers rather than using downsizing. These trends will have a profound effect on how corporations are organized in the future.

CHAPTER 8

Employees - The Future

Of all the trends discussed in this paper, the corporation and its relations with its employees is by far the most difficult yet most important topic. Employees are the driving force behind the success or failure of any corporation. It is a difficult topic because in order to effectively manage a workforce it is necessary to understand the human psyche. Unfortunately, the human psyche is a very misunderstood topic. This trend ranges from empowerment to training to work family programs. Many of the topics studied here were "buzzwords" of the past decade; empowerment is a perfect example. However, yesterday's buzzword is now the underlying basis of the entire organization. What complicates this subject even more is the fact that there is no single definition of what makes a corporation world class in employee relations. Each company has its own twist that when put together with the whole, provides a very meaningful and insightful look into the corporation of the future.

Employee empowerment is the most widely discussed concept of American corporations. Essentially, empowerment loosely refers to the practice of pushing decision-making authority down throughout the organization. It is characterized by flattened management structure and more responsibility and accountability down the ranks (Day, 12). Management relies on the wisdom of the people at the bottom of the organization. It allows employees to

use talents which would remain hidden if management simply gave out orders. Mark Fenner of the Public Relations Department at 3M sums it up by stating, "Generally, the job of management is to put forth a challenge and get the hell out of the way."

Even though the concept of empowerment has been around for nearly half a decade, it is still a rather novel idea to corporate America. The corporations studied here are certainly leaders in this area, but none has reach a pinnacle of success. Most of the programs being developed are only a few years old at best.

The General Motors Saturn program has it foundations in employee empowerment. Saturn has teams of workers that manage all aspects including budgets, task division, material procurement, hiring, and inventory control, with little direct oversight by top management (Woodruff, "Saturn", 62). Saturn hires motivated workers, trains them intensively, and gives them more say in their work. The teams are actually work units of six to 15 workers. The next level, the work unit module, led by a company adviser, is a liaison that helps the plant function together. Saturn is run almost entirely by operational workers (trade laborers, skilled laborers) who make the whole organization work. The added responsibility has made workers more accountable. Absenteeism averages just 2.5 percent, versus 10 to 14 percent at other GM plants. Part of the reason is peer pressure. Team members must take up the slack when co-workers do not show up. After two years of production, Saturn builds the

highest quality American cars, with defect rates rivaling those of Hondas and Nissans (Woodruff, "Saturn", 55). In fact, dealers cannot keep the car in stock.

Wal-Mart opened its first store in Arkansas 27 years ago. Today, Wal-Mart's profits as a percentage of total sales are already higher than its largest competitors, Sears and K-mart. It is no accident. The philosophy at Wal-Mart maintains that the best ideas come from people on the firing line because its associates are its number one asset. For this reason associates are given plenty of responsibility. Managers for each of the 34 departments within a store are expected to run their operations as if they were running their own businesses. The managers are supported with detailed financial statements that show costs and profit margins. The current CEO, David Glass, says, "Instead of having one entrepreneur who founded the business, we have got 250,000 entrepreneurs out there running their part of the business." (Zellner, 88).

In addition, managers themselves attempt to provide an environment where associates are well trained and challenged. Each spring managers hold a thorough "grass roots" meeting to listen to associates. All hourly employees eventually serve on a "screening committee" in the employment selection process. The committee reviews all job applications and decides who will be interviewed. The committee also conducts interviews and handles reference checks. Management, with the committee's guidance, makes final hiring decisions (Moore, 80). Wal-Mart also has a

Open Door Policy for all its associates. Doors are always open to hear what the associate has to say, whether it is a suggestion or criticism. The philosophy at Wal-Mart is that it is easier to care for the associates/employees you have than to replace them and train someone else. Wal-Mart founder Sam Walton said, "The bigger we get as a company the more important it becomes to shift responsibility and authority toward the front lines, toward that department manager who's stocking shelves and talking to the customer."(Walton, 35).

It is a policy which is doing more than making associates happy. In the Home Office alone, where the "Yes We Can Sam" suggestion program was introduced, associates implemented over 400 suggestions to simplify, improve, or eliminate work. It has resulted in over $38,000,000 in estimated savings (Walton, 40).

At 3M, employee empowerment has meant both profits and environmental goodwill. 3M has a policy that encourages researchers to use 15 percent of their employee time on projects of their choosing. This policy has paid off handsomely already. An example is 3M scientist Arthur Fry who developed Post-It brand notes. At the time he was working on a "bookshelf arranger tape". While doing research for this project he came up with the idea of a sticky-backed book marker. Soon, he was devoting less and less time to bookshelf tape and more time to sticky-backed pieces of paper. Today, it is virtually an American institution to have "Post-It" notes within easy access (Mitsche, 18).

With environmentalism increasingly becoming a must in

today's society, 3M is now a leader in pollution abatement practices. The company calls it the Pollution Prevention Pays (3P) program. Employees from the top down can suggest tactics that 3M should take to eliminate or reduce emissions. They eventually seek to surpass federal pollution requirements. Since the 3P program began, more than 2,500 projects have been undertaken to reduce pollution. One 3P program saved a 3M plant in Alabama $800,000 in construction costs for a facility to treat waste water. A new process of reusing water allowed the company to scale back the scope of the project. In New Jersey, the program has helped 3M reduce its emissions by 1,000 tons a year. Finally, in Los Angeles emissions totaling 1,050 pounds per day were prevented from reaching the atmosphere (McKee, 27).

At Johnson & Johnson empowerment of the employees is written directly in a section of their credo:

> "We are responsible to our employees: the men and women who work with us throughout the world. Everyone must be considered as an individual. We must respect their dignity and recognize their merit. They must have a sense of security in their jobs. Compensation must be fair and adequate, and working conditions clean, orderly, and safe. Employees must feel free to make suggestions and complaints There must be equal opportunity for employment, development, and advancement for those qualified. We must provide component management and their actions must be just and ethical."(Johnson & Johnson Credo)

This part of Johnson & Johnson's credo sums up the direction empowerment is going. It is the fundamental belief that a company's success depends on the employee's success.

All respected corporations are now making this concept a policy. Hewlett-Packard encourages employees to speak up when

they feel things are not right. It is called "The HP Way."(Verespej, 22). Intel's CEO, Andrew S. Grove, has been holding a long-running series of forums at Intel facilities around the world where he asks employees to say what they are thinking. It is a 90-minute meeting where engineering, assembly workers, and managers ask Grove tough questions (Tanaka, 86). Motorola beliefs its empowerment program has been instrumental in the pursuit of Six Sigma quality. Chairman and CEO Ron Allen makes a priority of meeting with employees at all levels. At every opportunity Allen is meeting with employees in an effort to keep a pulse of the company. Allen strives to create "an environment of approval" by giving employees as much authority as they can handle ("Atlanta's Most...", 24).

Today, however, good employee relations must go further than simply empowering them. It means creating a culture in which employees want to do a good job. Employees are every organization's most valuable resource, and all of corporate America needs to come to this realization. In the following paragraphs are some of the most innovative programs to develop such goodwill.

Federal Express was founded in 1973 by Fredrick W. Smith. Today, it is a global operation using high technology to deliver 1.5 million items each working day. It is the world's largest air cargo airline and very highly regarded. The high standards of quality have been attributed to their corporate philosophy of People-Service-Profit. P-S-P means that when the work

environment encourages employee autonomy, involvement, and respect, employees will, in turn, deliver excellent service. Profit will naturally follow. Federal Express takes great pride in its employees. Frederick Smith states,

> "We at Fed Ex have worked from the beginning to create a workplace that fosters respect for human dignity, ingenuity, and potential. It revolves around a simple philosophy: People, Service, Profit. That statement drives every action of every manager in our company. We believe that when people are treated with dignity and respect, they will carry that message throughout their daily work experience and directly to our customers. Profit is a natural by-product."(Smith, Fredrick, 17).

Federal Express has several systems in place to encourage risk taking, employee growth, and employee input. These include the Survey Feedback Action Program, Guaranteed Fair Treatment Procedure, and the Leap Program (this will be discussed later in the chapter). All three concepts are trends which other corporations need to benchmark for their own use. (See Chapter 1 - benchmarking).

The Survey Feedback Action (SFA) Program is important to uncover potential work group problems. Managers must meet with their staffs within six days after survey results are distributed and develop an action plan for dealing with every concern. Essentially it is an anonymous questionnaire given to every active employee. The items are designed to gather information on what hinders employees in their work environment. The data is collected and given to the manager. From here on out the FADE process of quality improvement takes effect. The manager meets with the workgroup. The goal of the meetings is to identify

specific concerns (Focus), examine specific causes (Analyze), and devise actions to correct problems (Develop). The outcome of these meetings should be a quality action plan. The final step in the FADE process is to Execute actions based on the commitments made in the quality action plan. The ultimate aim of the SFA program is continuous improvement in the workplace through enhanced employee involvement and communication (Personnel interview 1).

Another important encouragement for risk taking and employee input is the Guaranteed Fair Treatment Process. It is an in-house avenue for airing grievances. It shows Federal Express' commitment to listening to its people. The policy affirms the employee's right to appeal to any eligible issue through a systematic review by progressively higher levels of management. It starts with the employee's immediate supervisor and can eventually go to the top level of the Appeals Board. This board consists of the CEO, chief personnel officer, chief operating officer and two other senior vice presidents. At each level the decision can be upheld, modified, or overturned. In addition, the Appeals Board may refer the decision to the Board of Review. This board can be initiated in the event of a disciplinary problem or a termination. The review board in a large measure is named by the employee in question (Day, 13). Federal Express is committed to a fair workplace. Another method of encouragement includes an Open Door Policy. This directs employees' questions to the people in the company best qualified to answer them. All

questions must be answered within 14 working days (Smith, Fredrick., 13).

Wal-Mart's good relations with its employees are well documented. Wal-mart has a belief similar to Federal Express regarding employees and their value as assets. The company has a very unique information network consisting of 1,700 earth station satellites. Each Wal-Mart location receives quarterly messages or a motivational video from Sam Walton (recently deceased), CEO David Glass, or other executives. At least twice per week, for the growth of the associates, Wal-Mart transmits training sessions from the merchandise division, the people division, or other areas (Moore, 80).

Wal-Mart also has a profit sharing plan with its associates. Every associate who has been with the company a year and who has worked at least 1,000 hours a year is eligible for it. They use a formula based on profit growth where Wal-Mart contributes a percentage of every eligible associate's wages to his or her plan. When leaving the company, the associate can take the percentage in cash or in Wal-Mart stock. Bob Clark, at Wal-Mart since 1972, has about $707,000 in profit sharing to date (Walton, 24). There is an employee stock purchase plan where associates can buy stock through a payroll deduction at a discount of 15 percent off market value (Walton, 24). The more you share profits with your employees the more profit that will accrue. This is because the way management treats the employee is exactly how the employee will treat the customer; and the customers will

return again and again.

Open and direct communication is important to employee relations. Corporations are especially emphasizing the direct aspect today. Hewlett-Packard culture, "the HP way," places great emphasis on open, honest communication throughout the organization. The concept of Management by Wandering Around (MBWA) that is preached by Tom Peters, author of In Search of Excellence, has been a practice at HP for quite a while. Plant and sales office managers hold monthly meetings to let employees know about orders, shipments, expenses, and profits. HP has its own mass media channels, such as a magazine video. However, it has recently started shifting its communication programs toward more direct communication. Messages that used to be posted on a bulletin board are now given to supervisors for them to pass on to employees. Speaking classes are conducted by outside vendors to make managers more comfortable with face to face communication. To enhance the process, Corporate Education (an educational division at HP) has introduced a training program called Process of Management (POM) to develop successful managers. Before attending classes managers ask subordinates to evaluate them on their skills. This questionnaire is then used to develop a meaningful training session (Whitworth, 28).

Eastman Kodak has a similar program for improving employee relations with management. The Supervisory Performance Evaluation Guide (SPEG) was developed by a quality team. Subordinates fill out the review and then forward it to the next

level of supervision to discuss opportunities for improvement. Senior Vice President and director of Finance and Administration Paul L. Smith calls it "a sobering experience, but well worth the anguish, because it brings out areas that need improvement on both sides." (Smith, Paul, 51).

Johnson & Johnson Corporate Office of Operations and Technology creates a newsletter where various divisions, employees, and managers write in their success stories to encourage a better working environment. These ideas are written, along with the contact person, for other divisions or individuals to call and obtain more information. In another part of the newsletter employees, divisions, and managers write questions seeking answers to a specific problem. For example, one division sent in a question asking how to implement computer-integrated manufacturing (CIM) into operations. In other words, the company is creating a massive system of open communication. Success stories and ideas no longer remain within a closed area of the corporation. The entire company hears of it and is given the opportunity to learn more.

At Motorola, commitment to the employees develops a return commitment from the employees. Joseph F. Miraglia, senior vice president and assistant Motorola director of Personnel, says it all boils down "to strong values, compensation, and benefits. Training and investments in employees. Respect, integrity, and dignity in everything we do. That is what builds employee loyalty." (Personal interview 2).

It is the mention of training and investments which leads to the next major trend of the '90s -- extensive training. Employees must receive job skills and knowledge training in their jobs. Training is a long-term investment in profits, not an expense. American corporate leaders are developing programs which emphasize strengthening their "assets".

At no other corporation is training taken so seriously as at Motorola. Miraglia states, "We will have the best trained work force in the world. A real belief that everything is changing so rapidly you must invest to survive." A minimum of 40 hours a year is required by every employee. Motorola spends about $200 million per year on employee training. There are two major programs worth mentioning, Motorola University and the Programmable Automation Literacy (PAL) lab.

Partnerships with colleges to enhance employee education is a growing trend today (Cheng, 34). Motorola University has three functional curricula -- engineering, manufacturing, and sales and marketing. Each of these is divided into three parts -- relational skills, technical skills, and business skills. Motorola University teaches the relational skills itself, including customer satisfaction, effective meetings, effective manufacturing, negotiation, and effective presentations. Technical and business skills curriculum is obtained from local community colleges and technical schools.

Motorola instituted its PAL lab in 1989 to teach automation concepts to factory workers and provide them with practical

hands-on, laboratory based training. One of Motorola's goals is for manufacturing employees at all levels to achieve literacy in modern automated factory concepts. The PAL laboratory is designed to train students in a relaxed environment that encourages learning. Trainees work as partners at first until they become comfortable with the computer and the various other robots, electronics, etc. By the end of the program, assembly workers who had never dreamed they could understand a computer are excited about programming robots in new creative ways. This is exactly what Motorola wants its workers to do (Cheng, 34).

At 3M, training is extremely critical because it is a transnational organization. As was mentioned earlier, it looks to find the right balance between global advantages versus local market flexibility (See Chapter 7). In February 1988, 3M started setting up a transnational training program. The program has two rounds. The first round discusses the transnational company and communication. The second deals with European business conditions. In order to give the program a more transnational feel, a Frenchman was chosen to head up the program. In addition, 3M deliberately avoided installing a strong American presence (Randolph, 50).

Federal Express has found great success in training. The company spends three percent of its total expenses, or about $225 million a year, on training. It has an interactive video network that delivers job training and testing to 45,000 customer contact employees. A Leadership Institute teaches management, the culture

and philosophy of the company. A Quality Academy helps build a common language of quality throughout the company. Federal Express uses a learning process to help qualify people for management positions. It developed the Leadership Evaluation and Awareness Process (LEAP). This is literally a series of gates which employees must pass to be considered for management (Galagan, 27).

The LEAP program provides the opportunity for selection of people from within the company work force for management positions before seeking candidates from outside the company. A candidate must be endorsed by the hiring manager. The process should be completed in 3 to 6 months. A panel membership consisting of one member of the host division, one from a separate division, and one from the same or a different division decides if the candidate is ready to take a management position. Unsuccessful candidates may use the Guaranteed Fair Treatment Process to appeal a LEAP panel decision (Personnel Interview 1).

Intel Corporation spent $40 million on worker training in 1989, a large part of which was through the firm's Intel University. Intel U. provides each worker (including senior-level managers) with weeks or months of training at their work site. This includes job related skills, general business knowledge, and Intel corporate culture. Most of the courses are taught by experienced Intel employees, with the number of qualified instructors between 450 and 500. Each employee's training plan is custom-tailored to his/her needs. Virtually

every employee signs up. Cited impacts of the worker education program include a rise in average yield levels in the company's operations from 94 to 98-99 percent, operational savings of over $17 million since 1987, and better employee morale (DeYoung, "Intel U. Teaches...., 99).

GM has concentrated its efforts and $1 billion each year on workplace education. It invites hourly workers to go to school on company time. This is a far cry from the GM of the early '80s. In Lansing alone, 12,000 workers attend more than 550 classes at centers nearby. GM has a new belief that smarter labor turns out better products and services at a lower cost (Houston, 35). GM's Saturn plant was born with the concept of intensive training. Before production began two years ago, workers got 300 to 700 hours of school, covering skills such as conflict management and problem solving. That was followed up by training in areas such as hiring techniques. GM's goal is for workers to spend at least 5 percent of their time or 92 hours a year in training (Woodruff, "Where Employees....", 60).

McDonald's is the largest food service organization in the world. Throughout its growth McDonald's has maintained its reputation of quality products with quality service. The backbone of this is the employee training program. In 1988 alone, 25,000 people attended McDonald's Operations and Management training programs. In addition to original Hamburger University in Chicago, the company has hamburger colleges in Australia, England, Germany, and Japan. The Management Program

is also intensive. The company's program is an internship built around self-directed learning. It is a four-volume process with each representing higher levels of management and understanding of current management issues ("Training Serves...", 36).

Despite hard times from increasing competition, Kodak was awarded the 1992 Sales and Marketing Managements Best Sale Force Award. This award is based on seven categories - recruiting top sales people, gaining new corporate accounts, reputation, etc. Kodak's secret is training. Each recruit undergoes 90 days of intensive training before being sent into the field. New sales reps hit the street with a thorough understanding of the product, distribution channels, and technical processes. Their sales philosophy: "Our company is built on three cornerstones: focusing on consumers and the customers, such as retailers, who market our products; recruiting high-quality people for our marketing force; and empowering all our employees (Wiesendanger, 62).

The last trend of employee relations that must be covered is work and family responsibilities. An increasing number of companies are recognizing and addressing the need of employees to balance work and family responsibilities. Implementing family-friendly policies is proving to make good business sense. Addressing work-family issues can lead to improved recruitment and retention figures, increased productivity, reduced absenteeism, and enhanced goodwill. The best programs include help by offering flextime, part-time work, parental leave, flexible benefits, and child care centers. Studies of companies

such as Johnson & Johnson and American Telephone & Telegraph Co. show that helping employees resolve work and family problems boosts morale and increases productivity. The J & J study found that absenteeism among employees with flexible time and family leave policies was on average 50 percent less than for the work force as a whole. The survey also found that 58 percent consider such programs important to their decision to stay at a company. The number went to 71 percent for those currently using the benefits. Today workplace flexibility is being a competitive weapon and not just an accommodation (Hoffman, 81).

Johnson & Johnson has already seen how important work-family programs are in attracting and keeping their workers. After establishing such a program, 97 percent of J & J employees reported they would recommend the company as a good place to work. It is part of the company's credo; "We must be mindful of ways to help our employees fulfill their family responsibilities."("Companies Make It.., 4).

IBM officials believe that the companies work-family programs are intimately related to its goal to be the employer of choice. The company has very good programs such as mid-day flextime and a three-year leave-of-absence policy. In addition, IBM was the first company to offer national childcare and eldercare referral services ("Companies Make It.., 5).

Each company had a unique approach to improving employee relations. A corporation should combine these three concepts to create the ideal work environment. The first, empowerment, is

needed to a build a employee's sense of responsibility. Most people are more satisfied troubleshooting their own problems rather than being under the constant supervision of a manager. Second, corporations must build goodwill through programs such as employee surveys regarding management policies, procedures to appeal questionable manager decisions, and an open door policy. Finally, it is important to have a work family program. By addressing the concerns employees have about home life, such as children and the elderly, the corporation helps to build a loyal and more focused employee. In other words, the employee can concentrate more on work and worry less about home problems.

The New Era

This paper echoes one unavoidable reality - change. Change so dynamic that it will redefine business continually. Businesses in all industries will eventually be forced to choose between two widely diverging roads - one path heads in the direction of change and the other heads in the direction of maintaining the status quo. Both paths are risky, but ultimately there is only one logical choice.

The effects of avoiding change are painfully obvious. Look at IBM, once the absolute monarch of the computer industry, now fighting to become profitable again in a industry of increased competition. General Motors was once so well regarded that the thought of buying a foreign car was laughable at best. Today, a bloated bureaucracy and a extremely competitive global marketplace is forcing GM to change. These are just two examples of what is happening throughout America.

The 13 companies studied here provided a general look at the business trends for the '90s. Eight categories of trends were found.

Chapter one discusses the new thinking in the area of research and product design. Corporations are looking to design for manufacturability or concurrent engineering to speed time to market. This essentially brings every functional area (marketing, management, finance, engineering, etc.) together in the design and creation of a new product or service. This way

problems are ironed out in the beginning. Another important concept in this area is the extensive use of benchmarking. Corporations look to the "best of the best" in order to improve or implement a new idea.

Chapter two shows the '90s being a period when quality is no longer used as a competitive advantage. It is now an absolute necessity. Corporations are using quality teams and customer input to find problems in their products or services. The key is to find continuous improvement and implement changes.

Chapter three discusses the move toward strategic alliances, or the "virtual corporation". This a temporary network of companies that come together to take advantage of quickly changing opportunities. This helps avoid the inefficiencies and costs of vertical integration, especially in a global environment where time-to-market and high technology are too complicated and expensive for any single corporation. If the need for a product or service dies off, the partners simply break apart.

In Chapter four the new mentality in the "make vs. buy" decision is shown. In the past, corporations often believed that the more parts that were made internally, the safer their proprietary products would be. Today, it is becoming nearly impossible for a corporation to produce the most cost conscious, quality part for every component of a product, given time to market considerations. Instead, corporations are now looking to suppliers who specialize in specific parts. In addition, American companies are developing closer relationships with fewer

suppliers. These suppliers are then able to commit more time and research to that part.

In Chapter five the trend of customerization is discussed. Corporations are attempting to improve quality by obtaining the input from those who use the product or service the most. The more responsive a company is to its current customers the better able the company will be to attract new ones. This close and continuous contract helps corporations identify future shifts in demand.

In Chapter six, we see the new concern by world class manufacturers and service industries to incorporate environmental concerns within their marketing and operational strategies. Government is far too political and bureaucratic to effectively take leadership in the issue. Employees are now encouraged to develop environmental alternatives to business problems.

Chapter seven discusses the new move toward centralized decentralization. It allows the company to remain flexible while maintaining cohesiveness in areas were economies of scale are critical. An example of this is purchasing because the corporation has more volume and buying power as a unit. In addition, today boards of directors are becoming truly responsive and sometimes ruthless in the pursuit of the corporation's success. They want executives that perform well and show results.

In Chapter eight, we see corporations creating an atmosphere where there is true employee satisfaction. This means giving

employees an opportunity to control their own lives through empowerment programs. Corporations need to supplement this empowerment with extensive training. However any training program must be carefully planned and evaluated to determine if there is any value-added to the customer by investing in the employee. Finally, the growth of work family programs has become critical to building a more focused employee who not constantly worried about home problems.

Business can only predict future scenarios, so they need to put emphasis on flexibility and being able to adjust quickly. In other words, be prepared for shifting bases. This begins by understanding today's problems and acting on them now before they become yesterday's weaknesses. Business needs to create organizations in which the whole workforce plays a part, only then will today's problems be solved. Every trend discussed in this paper relies on a satisfied workforce that truly believes in the company they work for - a concept which was all but forgotten in the '80s.

The business professional as the agent of the business must also come to a few realizations. First, the marketplace has become so complex that survival depends on excelling in a niche market. The vertically integrated organization is quickly becoming the structure of the past. Second, quality is no longer a competitive advantage, it is an absolute prerequisite. Third, the organization needs to be structured in such a way that individuals become entrepreneurs. People need to be held

accountable so they have maximum desire to perform for the organization.

These new trends will likely bring these results as we head into the next century:

a. There will be increased specialization as high technology becomes to expensive and complex for a corporation to manage.
b. Today's large corporations will break apart into smaller more manageable divisions. However, certain aspects of the corporation will remain centralized.
c. An increasingly educated workforce will put more demands on corporate resources. In other words, employees will take a higher percentage of all costs due to programs such as training, employment, work family, and other related benefits.
d. On the other hand, corporations will become more intolerant to employee incompetence. Employees will be expected to perform well.

The '90s will be a period of change. It is the companies that openly accept this change that will become the success stories of the future.

Works Cited

"A Big Company that Works." Business Week. 4 May 1993.

Arnst, Catherine. "A Free-Wheeling Youngster Named IBM." Business Week. 3 May 1993, 134-138.

"Atlantas Most Respected CEOs." Business Atlanta. May 1991, 24-28.

Biesada, Alexandria. "Benchmarking." Financial World. 17 September 1991: volume 160, 28-54.

Boroski, John W. "Putting It Together: HR Planning in 3D at Eastman Kodak." Human Resource Planning. Feburary 1990: vol 13, 46-51.

Broussell, David. "Levi Strauss's CIO On: The Technology of Empowerment." Datamation. 1 June 1992, 120-122.

Bunsch, Daw. "Customer Service Focus Prompts Employee Exchange." Personnel Journal. October 1992, 32-38.

Byrne, John A. "Virtual Corporation." Business Week. 8 February 1991, 98-102.

Cheng, Alex F. "Hands on at Motorola." Training & Development Journal. October 1990, 34-35.

Commins, Kevin. "3M Wants 98% on Time Delivery, Relies on Spirit of Partnership." Journal of Commerce and Commerce. 12 March 1991, 25-29.

"Companies can Make it Their Business to Care." HR Focus. Fall 1992: Volume 69, 4-7.

Cook, Brian M. "In Search of Six Sigma." Industry Week. 1 October 1990, 60-65.

Day, Charles R. Jr (editor)."Empowered Employees Sharpen Their Edge." Industrial Week. 19 Feburary 1990: Volume 239, 12-20.

Dertouzos, Michael L. ,Richard K. Lester and Robert M. Solow. Made in America. Cambridge: The MIT Press, 1989, 54, 70, 128.

DeYoung, H. Garrett. "Intel U. Teaches Lessons You Never Learned In School." Electronic Business. 15 October 1990, 99-100.

DeYoung, H. Garrett. "The Quality Gospel." Electronic Business. 9 July 1990, 241.

Dobizynski, Judith H. "A GM Postmortem: Lesson For Corporate America." 9 November 1992, 87.

Works Cited (Continued)

Dunn, Peter. "IBM Council Narrows Vendor Base." Electronic News. 14 December 1994: Volume 39, 4.

Epstein, Vicki J. "Business Briefs." Crain's New York Business. 5 Feburary 1990, 21.

Evans-Correra, Kate. "Reorganizing with Commodity Teams." Purchasing. 21 Feburary 1991, 54-58.

"Fed Ex: Employees Eliminate Problems Instead of Fighting Fires." Business Marketing. February 1990: Volume 75, 40.

Fink, Donald E. "Environmentally Sensitive." Aviation Week & Space Technology. 3 Feburary 1992, 13.

Fisher, Christy. "Tending Wal-Mart's Green Policy." Advertising Age. 29 January 1991: Volume 62, 20-22.

"Four Friends, Four Rivals." The Economist. 27 February 1993: Volume 326, 14-18.

Francis, G. James. "HR Balancing: Alternative Downsizing." Personnel. January 1992, 71-72.

Galagan, Patrick A. "Training Delivers Results to Fed Ex." Training & Development. December 1991: Volume 45: 26-33.

Gosch, John "Nothing Short of Terrific." Electronics. 15 June 1992: Volume 65, 10-11.

Hammer, Andy. "Three Airlines to Develop, Market First Independent Reservation System." Cincinnati Business Courtier. 12 March 1990, 5.

Hammerly, Harry. "Matching Global Strategies with National Response." The Journal of Business Strategy. March/April 1992, 8-11.

Huey, J. "Nothing is Impossible [Paradigm Shifting]." Fortune. 23 September 1991, Volume 124: 134-140.

Huey, J. "Sam Walton in His Own Words." Fortune. 29 June 1992: Volume 125, 98-105.

Hoffman, Eric. "Work-Family." Business Week. 28 June 1993, 80-86.

Houston, Patrick. "Too Little, Too Late?" Business Month. February 1990, 34-39.

Works Cited (Continued)

"IBM Offers New Help Line." The New York Times. 18 March 1992: Volume 141, 18.

Kaeble, Steve. "Tying the Knot?." Indiana Business Magazine. December 1992: Volume 38, 15-16.

Kelly, Mary Ellen. "Wal-Mart Cifra Open Third Mexican Club." Discount. 16 November 1992: Volume 31, 2.

Kerr, S. and J. Moad. "How Allies Fit with the New IBM." Datamation. 1 January 1990: Volume 38, 34-35.

Kiesche, Elizabeth S. "The Trend to Establish a Benchmark for Quality." Chemical Week. 25 September 1991, 44.

Kirkpatrick, David. "Breaking Up IBM." Fortune. 27 July 1992, 44-55.

Kobe, Gerry. "Better Benchmarking." Automotive Industries. March 1993: Volume 173, 40-50.

Kobe, Gerry. "Picos is Coming!." Automotive Industries. January 1993: Volume 173, 30-33.

"Kodak in Joint Venture." The New York Times. 14 June 1991, D14.

"Kodak Tackles Shorter Design Times." Design News. 25 June 1990.

Kokum, Edward H. "Airline Alliance Emphasizes Improved Service for Passengers." Aviation Week. 26 November 1990, 52.

Koretz, Gene. "Tiny Employers Weigh Some Big Hiring Plans." Business Week. 21 June 1993, 24-27.

Kumar, Sanjoy. "Cross Functional Teams Improve Manufacturing at Motorola's Austin Plant." Industrial Engineer. May 1991, 29-32.

Lemanski, Dan. His Personal Compilation of Business Information.

Lesly, Elizabeth. "When Layoffs Alone Don't Turn the Tide." Business Week. 7 December 1992, 100-101.

Levine, Jonathan B. "For IBM Europe, This is the Year of Truth." Business Week. 19 April 1993, 45-46.

Lubove, Seth. "Full Speed Ahead but Cautiously." Forbes. 29 October 1990, 36.

Works Cited (Continued)

Mathusi, Rich. "Corporations Adopt Recycling Measures." The Business Journal Serving Greater Sacramento. 2 March 1992, 17-20.

McGrovy, Mary. "Enlightenment from Saturn." The Washington Post. 1 December 1992: Volume 115, A2-3.

McKee, Bradford A. "Environmental Activists, Inc." Nation's Business. August 1990, 27-29.

Mitcheal, Alan. "Alliances Force Technology's Pace." Marketing. 17 October 1991, 14.

Mitsch, Ronald A. "Three Roads to Innovation." The Journal of Business Strategy. September/October 1990, 18-25.

Moore, Herff and Von Johnston. "Pride Drives Wal-Mart to Service Excellence." HR Magazine. October 1991: Volume 36, 79-82.

"New Sense of Teamwork Raises Package Quality." Packaging. July 1991: Volume 36, 16-18.

Personal Interview 1, John Pettinger - Operations Manager. Federal Express. 12 June 1993.

Personal Interview 2, Joseph F. Miraglia - Senior Vice President and Assistant Motorola Director of Personnel. Motorola. 28 June 1993.

Poduska, Richard; Richard Forbes and Maria Bober. "The Challenge of Sustainable Development: Kodak's Response." Columbia Journal of World Business. Fall-Winter 1992: Volume 27, 286-290.

Puta, Julie. "It had to be Done and We Did It." Forbes. 26 April 1993: Volume 151, 149-150.

Raia, Ernest. "Hewlett-Packard Wins the Gold." Purchasing. 24 September 1992: Volume 113, 32-33.

Randolph, Benton. "When Going Global Isn't Enough." The Magazine of Human Resources Development. August 1990, 50-53.

Reed, Carson. "HP, Fort Collins sets Comprehensive Conservation Stardards." Colorado Business Magazine. July 1991, 20-21.

Rohan, Thomas M. "Services Win Baldridge." Industry Week. 5 November 1990: Volume 239, 52-53.

Works Cited (Continued)

Rose, Frank. "New Quality Means Service Too." Fortune. April 22, 1991: Volume 123, 97-99.

Sheridan, John H. "America's Best Plants." Industry Week. 15 October 1990, 27-64.

Smart, Tim. "IBM has a New Product: Employee Benefits." Business Week. 10 May 1993, 58.

Smith, Fredrick W. "Empowering Employees." Small Business Reports. January 1991: Volume 16, 15-20.

Smith, Paul L. "A CFOs View: Invest in Quality Teams for Decision Making." Financial Executive. May-June 1991, 51+.

Tanaka, Jamie. "Inside Intel." Business Week. 1 June 1992, 86-90.

Teresko, John. "Hewlett-Packard Keeps Reinventing Itself." Industry Week. 19 August 1991, Volume 240: 44-45.

Teresko, John. "Project Saturn." Industry Week. 19 November 1990: Volume 239, Volume 239: 32+.

Tortolano, F.W. "How Detroit Chases Quality." Design News. 1 October 1990: Volume 46: 93-95.

"Tracking Quality Through the Supply Chain." Purchasing. 18 January 1990: Volume 108: 101-103.

"Training Serves Up Success at McDonald's." Hotels. April 1990: Volume 24: 36.

Turino, Jon. "Concurrent Engineering Speeds Development Time, Lowers Cost." EDN. 7 May 1992: Volume 37: 191-196.

Verespej, Micheal A. "Where People Come First: At These Companies a Committment to Policies for People is Simply the Right Way of Doing Business." Industry Week. 16 July 1990: Volume 239: 22-32.

Vogt Jr., Carlton F. "Design for Success." Design News. 9 September 1990, 81-85.

Waldock, Tom. "From CIM to IMS Speed Success at 3M." Industrial Engineering. February 1990, 30-35.

Walton, Sam and John Huey. "The Secret of Wal-Marts Success." Money. July 1992, 24.

Works Cited (Continued)

Walton, Samuel Moore. "Memories of Mr. Sam: An American Original." Chain Store Age Executive. May 1992, 34-42.

Whitworth, Brad. "Proof at Last." Communication World. December 1990, 28-29.

Whiting, Richard. "HP Educates From Within." Electronics Business. 15 October 1990, Volume 16: 113-114.

Wiesendanger, Betsy. "Eastman Kodak Brings Training into Sharper Focus." Sales & Marketing Management. September 1992: Vol. 144: 62.

Woodruff, David. "Where Employees are Management." Business Week Reinventing America 1992. Special Edition 1992, 60.

Woodruff, David. "Saturn." Business Week -Spring Issue. March 16, 1992, 55.

Wubel, Robert. "Scorch, Burn, and Plunder." Financial World. 16 February 1993, 28-30.

Zellner, Wendy. "Walmart." Business Week - Spring 1992. 16 March 1992, 88.