

3M - Initiatives under new CEO

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3M is a company well-known for its ability to innovate. Jim McNerney, formerly GE's highly regarded jet engine chief, joined 3M as its new CEO in January 2001. Analysts are debating whether he will be able to transform 3M into the earnings growth machine that Jack Welch made of GE. And should he do so, would that kill the innovation culture that made 3M so successful in the first place? This article examines the transformation currently going on at 3M and attempts to examine whether the marriage of the 3M culture with that of the GE culture will work.

Five Minnesota businessmen founded Minnesota Mining & Manufacturing in 1902 to mine minerals use in sandpaper. The original mining venture was not very successful. Subsequently product improvements and large military contracts during the First World War turned the company into a profitable one. Since then 3M has capitalized upon innovations such as water- proof and dust free sandpaper, developed in 1920; Scotch masking tape introduced in 1925. The company officially changed its name to 3M Company in this year to coincide with the 100th anniversary of its incorporation.

With a product line totaling more than 50,000 different items, 3M has developed a global reputation for technical ingenuity and marketing innovation. 3M possesses excellent brand names. Perhaps best known for products such as Scotch brand tape and Post-it notes, today 3M has transformed into a global company with presence in 89 countries. Its global revenues constitute more than 50% of its total revenues which today stands at \$ 16 billion.

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All the 50000 product offerings come under the umbrella of 3M's six business units.

Deep roots in Innovation: Since its inception, the company has followed a simple formula for growth, enshrined in its 1948 manifesto now known as McKnight Principles. McKnight was an accountant turned sales manger and a long time CEO of the company. "Mistakes will be made but if the man is essentially right himself, I think the mistakes he makes are not so serious in the long run as the mistakes management makes if it is dictatorial". The company remains a model of decentralization and a small government. Researchers spend 15% of their time on any project of their choosing. If management denies them funding, they can apply for a Genesis grant, awarded by fellow scientists or pitch their idea elsewhere in the company. As a company it is brilliant

in turning out innovation after innovation. One third of 3M's \$16 billion in revenues comes from products that did not exist four years ago.

GE's way of life: GE has a 124 year old history with a \$ 126 billion revenues. It is more country than company. Jack Welch has been GE's boss since 1981. Since the brutal first five years, when the emphasis was on cost cutting, Welch tried to balance rationalization with revitalization. ***He balanced "internal" restructurings with "external" culture changing shocks such as Globalization, Services, Six Sigma and E-business.*** Over the last two decades, GE has also carried out 108 acquisitions.

GE has beaten another path by pushing into service businesses, not just in television and finance but by converting low-margin manufacturing into high-service businesses. When it comes to globalization,

S No	Business unit	Products	Revenues in 2001 (\$ billions)	% Revenues	% Profit margins
1	Consumer and Office	Scotch tape, Post – It Notes, O-Celo-O sponges	2.7	17	15
2	Industrial segment	Sandpaper, masking tape other adhesives and abrasives	3.2	21	18
3	Transportation, Graphics and safety	Highway, construction and personal safety reflectors, optical filters for computer screens, auto components	3.5	25	22
4	Health care	Surgical supplies; anti-inflammatory, cardiovascular and respiratory drugs; Asthma inhalers and skin patches; dental adhesives, crowns, wire and brackets; and various personal hygiene products like Aldara cream for genital warts	3.4	19	22
5	Electro and Communications	Computer printer circuits, inkjet printer components, copper cable and fiber-optic cable networks and devices that boost bandwidth capacity	2.2	15	16
6	Specialty Materials	Scotchgard repellents, firefighting fluids, fluorothermoplastics, Films and adhesives used in auto, electronics, textile and paper industries	1.0	7	11

GE has been successful unlike other American giants like Monsanto which did not succeed in trying to adapt their products to local standards.

GE is a multi-business. It is a conglomerate. It has 10 product groups with 28 business units. Some of the product groups include Power systems, Television (CNBC), Capital Services (GE Capital), Medical Equipment. It insists on being No 1 or No 2 in each of its market segments. In most of its businesses, GE is number one, and is not just gaining market share, but expanding the scope of the market. Over half the value of NBC is now in new media, in its cable channels (especially CNBC) and its Internet arm.

3M and GE: 3M is known for innovation. The elements of the GE's culture are the competitiveness, the people orientation and the performance orientation. 3M is a mix of businesses with more speed, entrepreneurship and dominating niches. GE is a big-scale type businesses. 3M functioned more like a sandbox; GE gave its managers a toolbox. 3M has 50000 niche products scattered across a bewildering organization chart; GE was organized into 11 giant business units. The attempt on the part of McNerney is to combine some of the above-mentioned elements of the GE culture with that of the 3M culture. At other companies, GE transplants had reported mixed success. Would GE's tools work in a 3M environment?

One of the reasons of GE's success is rooted in its movement of ideas and management talent around the group. It not only excels at using knowledge and experience within a business but also by transferring it over the whole company. For instance, a London Manager in GE Capital leveraged the talent of his young people to teach their bosses about the Internet. This became an example to be emulated by all the senior managers in other business units in GE including Welch himself.

The other reason for GE's continual rapid growth has been its ability for continual adaptation and self-destruction, despite its size and diversity.

GE offers different lessons for different firms. Many big foreign companies need to lose weight, slim hierarchies, embrace informality and start trading ideas. On the other hand, fast-growing but sprawling

high-tech firms such as Sun and Amazon need to import more of GE's discipline.

McNerney's new initiatives: In April 2001, McNerney announced a major restructuring which included the elimination of over 6500 people of its 75000 strong workforce which constitutes 7% of the workforce. He has given 3M's innovation culture with a dose of GE's management science. He has slashed costs, rationalized purchasing, introduced a company wide process-improvement program and challenged 3M to accelerate its growth. He has brought a more centralized direction to a company that has always adopted a laissez-faire approach on experimentation.

McNerney launched several initiatives since his joining 20 months back.

Six sigma: Taking a page from GE, 3M has specially trained "black belts" rooting out inefficiencies in departments from R&D to sales. McNerney's style has let employees feel that they are driving the changes; the 3M scientists like the data-driven nature of Six Sigma.

Product development: This has always been a 3M strength, but it is now pushing to get goods into the marketplace much faster by focusing R&D spending on the most likely prospects. This initiative, akin to acceleration strikes the 3M's deep roots. It is "3M Acceleration" an effort to speed product commercialization by focusing R&D. At any time 3M has about 1500 products in the development pipeline. The idea is to funnel more money towards the most promising ones while culling the weakest looking ones earlier. With an R&D budget of \$ 1 billion that amounts to 7% of revenues, 3M's main problem has not been one of innovation, but of execution. 3M's culture prevented the company from quickly developing and commercializing new offerings. The issue is to make it culturally fine to say no.

Some see a risk. No one predicted that Scotchgard or the Post-it Note would earn millions. They began as little experiments. They were solutions to a problem that people did not know they had. It was based on the principle that "no market, no end product is so small as to be scorned"

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McNerney counters this by saying that 3M is world class at the front end of the innovation process. It is the back end that needs to be changed. One pays a third of a million dollars for a pilot plant without bringing the marketing people into the discussion. Mythology at 3M supports a lot of important and good behavior. But when it becomes apocryphal, it becomes dysfunctional. It is time that people are more reality based at 3M. The challenge is to maintain the delicate balance between efficiency and innovation. It means getting marketing involvement earlier without killing off all the innovative ideas.

Health care business: The health care unit is the strongest business in the portfolio and getting stronger. It has the highest potential. The unit manufactures a wide range of products from surgical tapes & gowns and tooth-colored dental fillings to pharmaceuticals.

As 3M builds its pharma business, it has a few role models to give it guidance. The company's peers have largely exited the health-care business concluding that they lacked both the scale to compete against Big Pharma and the expertise to manage a

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drug company. The latest to exit is DuPont which sold its pharmaceutical division to Bristol-Myers Squibb in October 2001.

3M is confident that by teaming up with marketing partners like Eli Lilly and maintaining a tight focus on specialty markets, 3M can compete with the industry giants.

One of the hottest products is the antiviral salve Aldara, a genital-wart treatment that could also prove promising against herpes. After five years of intense research, recently 3M discovered a molecule that prompted host cells to produce interferon thereby subduing an invading virus. The discovery has blossomed into a family of 2000 patented compounds that have helped transform 3M's health-care unit into

A quick glance at 3M

3M was founded in 1902 at the Lake Superior town of Two Harbors, Minnesota. Five businessmen agreed to mine a mineral deposit for grinding-wheel abrasives. But the deposits proved to be of little value, and the new Minnesota Mining and Manufacturing Company quickly moved to nearby Duluth to focus on sandpaper products.

Years of struggle ensued until the company could master quality production and a supply chain. New investors were attracted to 3M, such as Lucius Ordway, who moved the company to St. Paul in 1910. Early technical and marketing innovations began to produce successes and, in 1916, the company paid its first dividend - 6 cents a share.

The world's first waterproof sandpaper, which eased the health problem of sanding dust, was developed in the early 1920s. A major milestone occurred in 1925 when Richard G. Drew, a young lab assistant, invented masking tape - an innovative step toward diversification and the first of many Scotch brand pressure-sensitive tapes.

The roofing granule business (ceramic coated bits of rock) was developed in response to a need to make asphalt shingles last longer. In the early 1940s, 3M was diverted into defense materials for World War II, which was followed by new ventures, such as Scotchlite™ Reflective Sheeting for highway markings, magnetic sound recording tape, filament adhesive tape, and the start of 3M's involvement in the graphic arts with offset printing plates.

In the 1950s, 3M introduced the Thermo-Fax™ copying process, Scotchgard™ Fabric Protector, videotape, Scotch-Brite® Cleaning Pads and several new electro-mechanical products.

In the 1960s dry-silver microfilm was introduced, photographic products, carbonless papers, overhead projection systems and a rapidly growing health care business of medical and dental products. Markets further expanded in the 1970s and 1980s into pharmaceuticals, radiology, energy control, the office market ... and globally to most every country in the world.

The 1990s set new sales records of over \$15 billion annually, and about 30% of sales coming from products created within the past four years. 3M's growth has come through a desire to participate in many markets where the company can make a significant contribution from core technologies, rather than be dominant in just a few markets.

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the conglomerate's fastest growing and most profitable segment. 3M believes that the drug has blockbuster potential and has the efficacy to eradicate skin cancer and other chronic viral infections, giving it a lease of 20-30 years earning potential.

The health care sales totaled \$3.4 billion in 2001, up 8% from 2000.

Sourcing: 3M is planning to move more manufacturing to lower wage sites overseas and to pool its purchases across divisions to get lower prices. It is Global sourcing, under which 3M is leveraging its size, centralizing purchasing, and cutting its number of suppliers.

Overhead costs: 3M had been letting utilities, travel and other costs rise faster than sales; they now total \$3 billion a year. It has hard goals for cutting those outlays.

Costs had grown at twice the rate of sales in recent years. There is an emphasis on indirect cost reduction, a program that emphasizes closer monitoring of prices and a clamp-down on travel and use of contract workers and outside services. Efforts to contain costs saved \$500 million in 2001 while streamlining purchasing saved another \$100 million.

Leadership development: 3M had not generated strong internal candidates for the CEO position. McNerney put the issue upfront by opening a leadership development institute modeled after GE's famous Crotonville center. He also changed the 3M's seniority based pay structure by compelling managers to grade every employee on the vitality curve.

Services: Taking another page from the GE playbook, McNerney wants to push 3M into services. It is not clear how many owners of Scotch tape dispensers will sign up for long term maintenance contracts. But the State department has hired 3M to install its shatterproof films on the windows of American Embassies worldwide. It is possible that 3M's telecom

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Jim McNerney

Three candidates were in the running for the past. Jim McNerney AT aircraft Engines (50). Immelt of Medical Systems (43) and Bob Nardelli of power systems (41). In November 2000, Immelt won the contest to be GE's ninth boss in 122 years.

McNerney worked at GE for 18 years. Before taking up the job of heading Aircraft Engines Business, he worked as the head of GE's Lighting and Asia-Pacific Operations. He did so well in that he was a finalist in the competition to succeed Welch as GE Chairman and CEO. After he was passed over, he became one of the most heavily recruited executives in industry. Jim McNerney left GE and joined 3M at its CEO while Bob Nardelli left and joined Home Depot as its CEO.

Adding to this celebrity luster is the fact that he was a college pal of President George W Bush.

unit for one could cut deals to maintain the fiber-optic components it sells to phone companies.

Acquisitions: McNerney wants to use this as part of the ambitious plan to grow sales at 10% a year, nearly double the rate of the past decade. While 3M has the cash flow and healthy balance sheet, little does it have experience in integrating acquired companies.

Allocating resources: Cash from mature businesses like adhesives and abrasives will be diverted to growth businesses such as pharmaceuticals, which has developed a promising class of drugs known as immune response modifiers. The optical division will also get priority funding. The idea is to make the people at 3 M compete for the resources once again. Another requirement that each division gets 30% of sales from products introduced in the last 4 years is done away with. To make that number dubious innovations like Pink Post it Notes were resorted.

E-productivity: emphasizing tighter management of the firm's web investments

McNerney mentions that the fears of 3E are overblown. He says that he is not changing the engine. He is trying to put in a new chassis and a new clutch. It is still going to be a car when done. 3M+GE=? He is focusing on the "big 3M" unlike Jack Welch strategy of breaking down the big GE, making it run faster. He thinks that he can turn 3M from a good company into a great one.

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