

## **A Review of 3M's Historic and Current Management Practices which contribute to a supportive culture for innovation.**

### **Why is 3M one of the world's most innovative companies?**

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‘An innovative climate is not just a sentimental need. It has powerful business implications and can bring real results. There’s a reason why companies like Google and Apple have such a breathtaking record of rapid innovation; you need to look no further than their climate. A climate of innovation ensures that you’ll have the inherent ability to not just innovate with an occasional flash of brilliance, but to do so continuously. That’s an extremely important strategic advantage to have in a fast-moving marketplace that’s overcrowded with competitors’.<sup>1</sup>

#### **Objective and Methodology**

The objective of this review is to identify which of the historic and current management practices employed by 3M support a culture for innovation and which practices are similar or different when compared to other innovative companies. The overall purpose of this initiative is to contribute to a better understanding of the reasons why some companies are innovative and others are not.

The following review is based on an examination of information about 3M drawn from a number of publically-available sources.

- 3M publication; ‘A Century of Innovation’. Last publication; 2002.
- Masters of Innovation, an article published in Business Week, April 10, 1989, entitled ‘How 3M Keeps its new products coming’.
- Annual reports.
- Breakthroughs!: a book published by Rawson Associates, and based on an international study of innovation by Arthur D. Little, Inc.
- A Business Week article of June 11, 2007, ‘At 3M, A Struggle Between Efficiency and Creativity.’
- Corporate Presentations as noted.

The anecdotal information has been structured according to 25 Factors. The Factors have been identified as contributing to a culture which supports innovation and are based on earlier research of innovative companies.

Background information on the early as well as current research can be referenced at the following web site:

<http://www.corporateinnovationonline.com>

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<sup>1</sup> FutureLinkLLC. See; [www.getfuturelink.com](http://www.getfuturelink.com)

### **Executive Summary of Results**

Founded in 1902, 3M has a well established reputation for being an outstandingly innovative company. Examining the innovative culture of a century-old corporation requires one to look at 100 years of progressive development while under the leadership of a number of CEOs and Board Chairmen. Since culture is most often deep rooted and can be long lasting it is fair to examine the history of the company and pick out those policies and decisions which have contributed to 3M's culture as it developed over the years. Culture transcends leadership but is no doubt influenced by each successive leader.

For 3M there is no doubt that the culture of innovation has been long standing and has evolved over the full history of the firm. There have been 'ups' and 'downs' in success but seldom has the company been far away from a culture with strong support for innovation.

There is a positive correlation, i.e. 3M practices fit well, with 16 of the 25 Factors deemed to describe a culture supportive of innovation.

Anecdotal information, however, is silent on 5 of the 25 Factors but this is not surprising since it would not be expected that publically-accessible information would be available to make a comparison. Should more information become available, the results could add to the correlation or detract from it.

Of the 8 most important Factors, 6 are favorably addressed by 3M practices. The selection of the 8 most important Factors are based on the opinion of respondents who have completed the 'Check Up'; a survey designed to elicit opinions on corporate culture.

Over the most recent decade, 3M has experienced 3 leadership regimes. One of the leaders, the first ever appointed from outside the organization, brought to the company a significantly different approach to leadership and management. Under McNerney, the culture for innovation underwent a reshaping with different points of emphasis than had been associated with traditional 3M values. Most recent management appears to be taking steps to swing the pendulum back somewhat towards the traditional culture although it remains to be seen what impact these changes will have on the culture for innovation.

## **Notes on 3M's management practices which support, or detract from, a culture for innovation**



### **Factor #1: Emphasis on short-term versus long-term profits.**

**For 3M, the long term support for R&D is perhaps the best anecdotal evidence that the company has, traditionally, taken a longer-term view than many companies and is not driven by an over-emphasis on short term profits, except perhaps, during the term of the 2<sup>nd</sup> last C.E.O. James McNerney. Under current leadership the focus seems to be longer term.**

'A Century of Innovation' makes numerous references to 3M's decisions to sustain R&D at all times and more so to continue and often to augment this support even in economically difficult times. The extensive attention to the organization and reorganization of laboratories seems to never lose sight of their importance to the success of the company; clear evidence of a company that places its emphasis on the longer-term not the short-term. Quote; "Patient money" and patient people help the big ideas germinate.

Reference Business Week article, 'McNerney, the first outsider to lead 3M.. axed 8,000 workers, intensified the performance-review process...and held research and development funding constant for the years 2001 to 2005'. More recently, and under the leadership of CEO, Mr. Buckley, there is hike to 'spending on R&D, acquisitions and capital expenditures'.

### **Factor #2: Extent to which management explicitly looks for innovation.**

**3M management, for over 100 years, has explicitly looked for innovation. Board level commitment, while not explicitly noted, seems obvious since the practice has been, with one exception, to move CEOs into the Board Chairman position thus sustaining the value system. Most recent changes in management have somewhat altered the explicit emphasis of the last century.**

Many believe William L. McKnight's, who joined 3M in 1907 and was President from 1929 to 1949, and COB from 1949 to 1966 – the longest period of any CEO, made the initial contribution to the culture of innovation. He created a corporate culture that encourages employee initiative and innovation.

Subsequent leaders have continued the tradition and added their own initiatives to reinforce the importance of innovation. Lewis W. Lehr, who served as C.E.O. from COB and CEO from 1980 to 1986, stands as an example of this continued emphasis. Quoting from 'A Century of Innovation' - 'Even with public kudos from business observers, as 3M entered the 1980's, Lehr wanted to ensure that his company's growth curve could be sustained in a global economy where the innovation rate was accelerating and competition had multiplied. Perhaps on the heels of the blockbuster success of the Post-it note, some 3Mers wondered how the company could produce more revolutionary products that quickly increased sales. Lehr championed aggressive "stretch goals" for the company at the start of the new decade and employees delivered. Five years earlier, in 1977 3M had inaugurated Challenge '81, a program aimed at achieving 25% percent of all sales from products less than five years on the market. By the 1990's, that stretch goal was raised to 30% percent and the total years reduced to less than four'.

'Lehr also created a 16-member Innovation Task Force led by Gary Pint to take a candid look inside the company. "We wanted people in 3M to understand that management, starting with Lehr, was sure that the environment for innovation at 3M hasn't deteriorated," Pint said. "Or if it had, that the commitment and means were available to get it back to where it was. We've been successful because of innovators in the past and we wanted to continue to make sure that innovators, people who have that flair for making things happen, feel like they're working in a supportive environment." The task force goal was to not only

stimulate innovation in technical areas of 3M but at all levels and in every kind of job at 3M. And, to gain a clearer picture of 3M's climate of innovation, the group hired Gifford Pinchot III, a management consultant and author who had coined a new term in his successful business book, "Intrapreneuring: Why You Don't Have to Leave the Corporation to Become an Entrepreneur." Pinchot conducted a four-month "innovation audit" for 3M aimed at better understanding the delicate "climate."

Other examples illustrate that each CEO embraced the importance of innovation. Some of these gave special emphasis to the need for new ideas and processes during the course of their leadership.

Under McNerny, who was the first COB and CEO ever appointed from outside the company when he joined in 2001, 3M introduced the 3M Acceleration program to reinforce the program of moving high potential products through the system. While this followed the pattern of previous incumbents, who also wished to reinforce the culture of innovation or not see it flag, the focus seems to have been more on the achievement of short-term than longer-term results.

Reference Business Week article; the focus, under Buckley, seems to have shifted 'from profitability and process discipline to growth and innovation'.

### **Factor #3: Tolerance of mavericks.**

**3M's history suggests that for over 100 years, the company was supportive of the views, often strange views, of its innovative employees. 'Tolerance for Tinkerers' is how this is referenced in material reviewed.**

'A Century of Innovation' makes reference to the 'Dream Team' and in so doing gives credit to, not just the idea of a 'maverick' per se but also emphasizes the benefits which can take place where the congruence of skills (often from several mavericks working together) makes a difference. Each of the three members brought their own 'personalities to 3M; one was an optimist, go-getter, calculated risk taker and a leader, another was also an optimist, unconventional, innately curious, a rule-breaker and a leader who had his own distinctive style, and the other member was a consummate inventor, open to new ideas, resisting limits, probing the impossible; obviously an unbeatable combination.

Reference to the Business Week article; 'unlike most companies – then and now – 3M Co. demonstrated a wide tolerance for new ideas, believing that unfettered thinking would pay off in the end' referring to one of the early mavericks at 3M by the name of Francis G. Okie. 3M keeps its spirit alive by 'encouraging inventive zealots like Francis Okie'.

There is a lack of anecdotal evidence in 3M's most recent history to suggest, one way or the other, that the 'tolerance for mavericks' continues to this day.

### **Factor #4: Degree to which planning emphasizes rationing of resources versus identifying opportunities.**

There is little anecdotal evidence relating to this Factor.

**Factor #5: Tolerance for failure.**

**Historically, 3M has established a culture that traditionally tolerates failure. Over the period, 2001 to 2005, however, the emphasis on the need for predictable outcomes implicitly meant that there was also a lower tolerance for failure. Current management seems to be returning to the more traditional 3M values.**

‘Innovation is generally an untidy process’. ‘When this (referring to the failure of the majority of ideas) happens, the important thing is not to punish the people involved’. Two quotes attributed to Pint, and Lehr, respectively from ‘A Century of Innovation’.

McKnight put his faith in the good judgment of 3M employees. He warned against micromanagement and the chilling effect that accompanies intolerance of failure. His basic rule of management was laid out in 1948. "As our business grows, it becomes increasingly necessary to delegate responsibility and to encourage men and women to exercise their initiative. This requires considerable tolerance. Those men and women, to whom we delegate authority and responsibility, if they are good people, are going to want to do their jobs in their own way". "Management that is destructively critical when mistakes are made kills initiative. And it's essential that we have many people with initiative if we are to continue to grow."

Reference to the Business Week article; 3M relies on a few simple rules... ‘Tolerate failure. By encouraging plenty of experimentation and risk taking, there are more chances for a new-product hit.

Reference Business Week article; most recent management has ‘brought back a spark around creativity’.

**Factor #6: Emphasis on management of people and their interactions.**

**Implicitly, 3M has placed significant importance on the management of people. By adopting the notion of keeping organizations small and by being clear on the organizational arrangements of its champions, 3M has demonstrated the importance it places on people and their interactions.**

From ‘A Century of Innovation’; ‘it became clear that 3M needed a more formal structure for identifying people with top potential and giving them the experience and opportunities to move into senior positions in 3M’s heavily “promote from within” culture. A Human Resources Policy Committee was created in 1982, under the regime of Lewis W. Lehr. A senior executive was hired to chair the initiative and a well recognized management consultant was hired to assess 3M’s ‘intrapreneurship’ quotient. Part of the programs intent was to ‘make people understand that even if they came from the tax department or the fire department, there was always room for doing things a better way’.

‘The most successful innovators network, interact and share their knowledge – and problems’, a quote from ‘A Century of Innovation’.

Reference is often made to the role of ‘champions, sponsors, and mentors’ and that a person can be one or all three. Champions were people who ‘have strong credibility; they are persuasive “lobbyists” for new ideas and products at 3M; their willingness to take risks is more important than their titles’.

Collaborative sessions were a keynote. Emil Grieshaber, technical director Visual Products Division, held ‘show and tell’ session in an informal atmosphere to encourage lab personnel to get together to share their ideas and knowledge. ‘One idea sparked another’ and so on was often the result. There are many references to the informality within 3M and the impact which this collegiality had on the generation of new ideas and the development of the firm.

**Factor #7: Use of career ladders and recognition of innovators.**

**3M has programs for rewarding and recognizing innovation and has set up specific awards that differentiate between traditional technological innovations and those more closely associated with other functional activities.**

One of the key outcomes of the Innovation Task Force led by Gary Pint was ‘the confirmation that innovation thrives on personal recognition matched with financial and moral support’.

‘Other grant and recognition programs to spark creativity would later be added to time-honored programs such as the Carlton Society and the Engineering Achievement Award of Excellence. Alpha grants for innovation in administrative, marketing and other non-technical areas were made available in 1986.

Reference to the Business Week Article. 3M relies on a few simple rules. Motivate the champions. When a 3Mer comes up with a product idea, he or she recruits an action team to develop it. ‘Salaries and promotions are tied to the successful shepherding of new products from inception to commercialization. The fanatical 3Mer who champions a new product out the door then gets the chance to manage it as if it were his or her own business’.

Under McNerney, the company has ‘changed the focus of ...employee assessment and compensation system to better motivate, reward and recognize our very best contributors’. **There is little anecdotal evidence to better understand this latest shift in focus let alone the affect of more recent changes under current management.**

**Factor #8: Tolerance for variance from the corporate norm.**

**Historically, there was a clear indication from the top level that challenging the corporate norm was to be encouraged. More recently, with the introduction of new approaches to management which ‘systemized’ most procedures, the traditional culture may have changed.**

From ‘A Century of Innovation’; ‘People who know the company best point to four key ingredients that foster a culture of innovation at 3M: attracting and retaining imaginative and productive people, creating a challenging environment; designing an organization that doesn’t get in people’s way; and offering rewards that nourish both self-esteem and personal bank accounts’.

Reference the article in Business Week .The period 2001 to 2005 marked a shift in tolerance towards ‘things different’. With the introduction of Six Sigma and the training and retraining of Black and Green-belts, there is the notion that the culture has shifted away from ‘tolerance’ in this respect. Most recent management changes may have again altered the culture but there is little anecdotal information available.

**Factor #9: Tolerance for risk (in the planning process).**

Little or no anecdotal information is available on this Factor.

**Factor #10: Degree of formal communication within the organization.**

**3M, traditionally, has emphasized the informality of communications within the organizations.**

Reference Business Week article. ‘In fact, informal information-sharing sessions spring up willy-nilly at 3M-in the scores of laboratories and small meeting rooms or in the hallways’.

**Factor #11: Use of independent work groups.**

**3M recognizes the importance of establishing separate work groups to carry out specific tasks in addition to setting up its up divisions where a different culture than the norm at 3M was required in order for the division to be successful.**

In the mid 1950's, when sales took off for the Duplicating Products Division, the group stayed in its original location where people knew they were breaking new ground. "We were separate, so we were independent. We had freedom to do what we needed to do. That was good because we were in a new business, very different from tape, abrasives or reflective sheeting... We had to hire different kinds of people to get the job done, and we built factories that were different from anything else in 3M" according to Ray Herzog. The arrangement lasted until the product reached the end of its life cycle and expected margins could not be realized against formidable competition.

By 1980, the company had grown dramatically to about 40 business units organized among five business groups, each with different management and business goals. The duplication of effort led Lehr to propose the first formal strategic planning process that 3M had undertaken in eight decades. The implementation of the resulting plan led to the company being organized into four business 'sectors' in which divisions with compatible technologies were grouped together.

In 'A Century of Innovation' it is noted that even with the success of Post-it note, the company was concerned that it could not produce products sufficiently fast to increase sales. Aggressive goals and 'stretch' objectives had been put in place which were challenging. Lehr formed a 16-member Innovation Task Force to take a candid look inside the company. The group was challenged to 'gain a clearer picture of 3M's climate of innovation'.

Reference Business Week article. 'Divisions are kept small, on average about 200 million in sales, and they are expected to share knowledge and manpower'. '3M is big but acts small. There are 42 divisions, so ladders to the top are all over the place'.

More recently 3M notes it has 35 business units organized into six businesses.

**Factor #12: Degree to which management decisions are made with input from the rest of the organization.**

**3M is a company that seeks input into decisions for most levels in the organization.**

George W. Buckley, current Chairman of the Board, President and Chief Executive Officer, makes a point in the annual report. It's been called "the 3M effect." "But what may appear to be serendipity or wizardry really is our very mindful method of driving discovery and innovation. It's firmly rooted in our collaborative culture. Each day, we have one thing in mind: to help customers succeed – at home, in the workplace, on the go, around the world'.

**Factor #13: Formality of the decision process.**

**3M has placed an importance on the informality of the decision process.**

McKnight's comments seem relevant to this day; minimal hierarchy, intentional informality, and strong support for creativity and innovation' are the phrases associated with this leader.

Robert Hershock, who became the General Manager of the Occupational Health and Environmental Safety Division in 1982, was one of the leaders who set out to change the division's culture he found in his division; the Division was recognized as an aberration in the 3M global organization. 'People worked in silo's and they had not been encouraged to take the kinds of risks that might require substantial financing'.

A ‘cultural audit and self assessment’ was initiated. He stated that ‘an innovative division where employees could take risks and have a high degree of autonomy in their work... where communications flowed freely up, down and across the organization’ was his vision. As a result of efforts arising during his time, ‘internal barriers to innovation were significantly reduced’.

Reference the Business Week article; ‘the scarcity of corporate rules at 3M leaves room for plenty of experimentation – and failure’.

Reference Business Week article; the introduction of Six Sigma along with DMAIC approach to problem solving, while contributing to significant improvements in profitability during the 2001 to 2005 period, did much to de-emphasize the previous informal decision-making approach.

**Factor #14: Availability of reward mechanisms for innovation.**

**It seems clear that 3M has recognized that monetary, as well as non-monetary mechanisms are an essential motivating mechanism for most of their personnel.**

The Task Force led by Pint ... was one of several internal reviews which confirmed that ‘innovative people are motivated when they have freedom, support and encouragement’. ‘Innovation thrives on personal recognition, matched with financial and moral support’.

Under McNerney, the company has ‘changed the focus of our employee assessment and compensation system to better motivate, reward and recognize our very best contributors’. **It is unclear how this recent change in compensation arrangements has impacted the earlier recognition of the importance of individual awards.**

**Factor #15: Planning orientation versus action orientation.**

Little or no anecdotal information is available on this Factor.

**Factor #16: Attitudes towards merger, acquisition, joint ventures, and divestiture.**

**3M, while having an early culture of do-it-yourself up until the 1970’s, now has a much more open attitude towards the role of strategic acquisitions and divestitures.**

3M’s bias had always been to “grow its own” new ventures. Harry Heltzer, who was COB and CEO from 1970 to 1974, introduced a new notion when in the early 1970’s he said “Not everything can be invented here, no matter how much we provide in the way of talent, management and dollars.” “Sometimes an acquisition is the obvious move”.

Reference the 3M Annual Report. After completing just four acquisitions in 2005, we completed 19 in 2006, plus several technology “deals.” These acquisitions were mostly in the traditional 3M core. This was a huge achievement by our people and one that gives us great confidence in our acquisitions strategy. For 3M, acquisitions are not simply about gaining volume. They are about much more. But they will always be about getting a sensible return on investment. They are sometimes used to advance our technology base, as in Brontes Technologies and Acolyte Biomedica, sometimes to gain immediate new capacity, as in Nylonge Corp., sometimes to fill our product lines, as in Biotrace International, and sometimes to gain access to new markets, as in General Industrial Diamond Co. Sometimes they are made specifically to strengthen the core, as in NorthStar Chemicals, an adhesives company, and sometimes they are about new adjacency growth areas such as Security Printing and Systems Limited in the U.K. and CUNO Incorporated in the United States. As acquisitions help us achieve all of these goals, above all, they help boost and complement our capability to drive organic growth and they will remain a key pillar of our growth strategy going forward’.

Spin-offs and the shedding of divisions became part of the culture when in 1995 3M announced that the marginally profitable data-storage and imaging businesses would be spun off and at the same time announced the discontinuance of its audio and videotape businesses. Jobs were eliminated. Prior to this decision people had come to believe that they were guaranteed a 'job for life', the 'spin off proved them wrong'.

George W. Buckley, current Chairman of the Board, President and Chief Executive Officer says that 'The keys to driving higher growth are fairly straightforward, namely, refocusing on our core business, using acquisitions to fill in the white spaces (both technological and market), rapid entry into emerging new markets and continuing to build our highly successful international business.

**Factor #17: Management expectations regarding loyalty to the company versus personal development.**

**At 3M there is strong emphasis placed on aligning individuals' on-the-job relationship with corporate goals.**

Reference the Business Week article. 'Then there is the 15% rule...allows virtually anyone at the company to spend up to 15% of the workweek on anything he or she wants to, as long as its product related. The practice is called "bootlegging" and it's most famous invention is the ubiquitous yellow Post-it note'.

The 15 Percent Rule was inspired by one of the early inventors in 3M. 3M has 'institutionalized' this rule.

In the book Breakthroughs, note is made of the fact that the 15% is not tracked and if it was enforced, this would undermine its intent and inhibit the creative energy of researchers.

Commenting on the 'Role Of Technology and Innovation at 3M' in a presentation May 2, 2006, 'An Emerging Strategy for Growth', Buckley states, 'As well as our history, it (referring to the role of technology and innovation) is the engine of our future growth. The key to sustainable success is unfettered innovation. But it's not only about monetary volume, it's also about direction. 3M's shared technology model is essentially unique. The 15% rule is alive and well'.

**Factor #18: Decentralization versus centralized hierarchy.**

**3M is committed to a policy of minimal hierarchy and as close to flat organization as you can get given the size of the global organization.**

William McKnight imagined a "flat" organization decades before the concept was a popular business model according to "A Century of Innovation". The tenants of the 3M culture were 'minimal hierarchy, intentional informality, strong support for creativity and innovation. Challenging leadership is welcomed'. He encouraged 3M management to "delegate responsibility and encourage men and women to exercise their initiative. 'A Century of Innovation states that 'his management theories are the guiding principles for 3M' and with 'our heritage' dating back more than 100 years, and continue to accompany us in the 21st century'.

A "loose-tight" philosophy of management balances entrepreneurial action and corporate consistency where it matters most.

3M's practice of spinning off new initiatives is also testimony to its desire to minimize the tendency towards increased hierarchy which one often associates with large corporations.

**Factor #19: Availability of resources (budget, time, etc.) for new ventures.**

**3M makes it clear that it is proud of its continuing support of R&D and the fact that the level of support is generally in the upper end of similar companies. Except for the period, 2001 to 2005, during which the criteria for funding new ventures changed, there has been a sense that funds would be available.**

Perhaps the test of whether a company has a culture that makes available resources is best demonstrated when, in spite of all good efforts, there is an economic recession and the markets and therefore profits are just not being realized. DeSimone, who was COB and CEO from 1991 to 2001, a length of time in the position exceeded only by McKnight, inaugurated the Pacing Plus Program that singled out the most promising new products and business ventures and rewarded them with additional corporate resources.. to bring them to market. This Program was undertaken when the company was facing a deep recession; a time when most companies would cut back on 'extra' investments.

Under the regime of McNerney, 2001 to 2005, it was apparent that monies would not be as available as had been the case in earlier years and that the facility to tap into the monies that were available would be based upon a thorough review of the use of the funds applying a set of formal criteria which would include the predictability of shorter-term gain than had been the tradition.

Most recent management has moved to increase, i.e. 'hike' spending on research and development and capital expenditures.

**Factor #20: Staff versus line involvement in the decision process.**

Little or no anecdotal evidence is available on this Factor.

**Factor #21: Ability to retain innovators.**

Little or no anecdotal evidence is available on this Factor.

**Factor #22: Extent to which company has an innovative tradition.**

**3M clearly states the importance of the innovative tradition and has formally made this a part of its culture since at least the early 1940's, if not before. More recently, 3M's reputation and the resulting tradition may be slipping.**

As early as 1940's, 3M was explicit about creating a culture of innovation. Carlton created a technical policy committee that became the forerunner to 3M's Technical Council and Technical Forum in which, even today, ideas are freely shared company-side. "That effort was the first intended to 'institutionalize' a culture of innovation at 3M.

McNerney, on the occasion of it's name change to 3M, stated that 'We will continue to invest in successful platforms, and our rich culture of innovation will always be the springboard for new products. At the time same time, we are infusing that culture with new energy, etc.'

In terms of the new products introduced as a % of products available 5 years before, 3M's performance has faltered in the early part of this decade. The percentage has declined from close to 30% to about 25%, at least an outward indication that the innovative tradition may have been slipping.

**Factor #23: R&D budget levels versus the competition.**

**R&D expenditures have been a year-to-year priority and are probably above average for the industry although there are no comparative statements which would support the above-industry comparison. The organization of research laboratories and their time-span focus clearly differentiates basic from developmental research.**

‘For the first 35 years, 3M’s definition of research was “product development” not “pure” or “fundamental” research as research scientists define it’. Under Carlton 3M created its first Central Research Laboratory in 1937 with a two-fold purpose: to supplement activities of 3M’s division labs that worked on product refinements and to explore independent, long range scientific problems beyond the ken of any division’.

During the time of Lehr the role of the Central Research changed with the setting up of a response to the shorter term needs of the 3M Divisions; a focus on 7 years out. Sector labs could handle 5 to 15 year spans and Central Research could return to its long-range mission focused on new ideas and a time span of 10 to 20 years.

Even so, 3M would not cut back on its research and development spending; under Jacobson (then commitment to research and development increased.

George W. Buckley, Chairman of the Board, President and Chief Executive Officer states in the 2006 3M Annual Report; ‘To the outside world, what we do looks a little like magic. Our people have an uncanny ability to see customer needs and then meet them by drawing on 3M’s deep pool of technologies – a pool supported by R&D-related investment averaging more than 6 percent of sales. We create entirely new product categories and breathe new life into markets crying for reinvention’.

From the 2006 Annual Report, Buckley further comments on 3M’s investment in core R&D: ‘3M is rightly legendary for its innovation, commitment to invention and the introduction of new products. It is a fabulous cooperative and shared-technology ecosystem unlike, and unequaled by, any other in the world. This really is part of the magic of 3M. Working Our Magic 3 Just as 3M’s history is rooted in innovation and the invention of new products, so it will be in the future. But to remain successful, we need to invent and innovate faster and still do it better than our competition. We have some of the best scientists and manufacturing process engineers in the world and their principal task is to use their creative genius to give our salespeople the products they need to help our customers and beat the competition. Leadership’s job is to try to create the environment where the magic can happen. In this new hyper-competitive world, time will never be on our side, so speed and focus for 3M are as important as creativity.

**Factor #24: Perception of innovation as increasing or decreasing.**

**Where CEO’s have felt that dynamic innovation was sagging or needed to be doubly emphasized, special initiatives have been taken to support innovation.**

Almost every CEO in 3M has placed importance on the subject of innovation and its continuing importance to the development of the company. Most have taken special initiatives to reinforce this emphasis which may suggest that, not surprisingly, that the enthusiasm for innovation may have, on occasion, flagged. In some instances, however, the initiatives were taken to ensure that innovation did not flag. In any case, the innovation dynamic has always been emphasized.

Most recently, Buckley comments in the Annual Report of 2007: ‘For most companies, growth is fundamentally a story about new products and new markets, and that is especially true for 3M. Sometimes that growth comes through product extensions; sometimes through entirely new beginnings. But whatever form growth might take, it is clear to me that there is a direct correlation between the successful acceleration of 3M’s growth and the health of innovation and creativity at our company. At its core, 3M remains an idea company that prospers best when we commit ourselves to invest in ideas, technology development and new products. Without innovation we will not grow’.

**Factor #25: Degree to which employee organizations encourage innovation.**

Little or no anecdotal evidence is available on this Factor.

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