Case Study

Nortel: The Rise and Fall of a Telecommunications Company[1]

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Overview

This case study presents an in-depth examination of Nortel Networks Corporation, a major Canadian player in the telecommunication boom of the 1990s. The case assesses Nortel's rise, as well as its sudden and precipitous decline, early in the twenty-first century. More specifically, the case investigates if and how four aspects of the firm's governance contributed to its downfall: (1) governance structure at the board level, (2) executive compensation, (3) ownership structure, and (4) earnings management.

Nortel's Steep Rise and Fall

At its peak, Nortel was a giant corporation. In July 2000, at the height of its success, with a market capitalization in excess of $350 billion Canadian dollars, Nortel accounted for more than 37 percent of the Toronto Stock Exchange Composite Index value and ranked among the largest firms in the world.[2] As a diversified company focused primarily on telecommunications, Nortel seemed invincible. Commentators were pleased with its "strength across the board in its product markets" and its focus on the fastest-growing wireless and broadband communication segments.[3]

Nortel's particular expertise—in wireless and broadband communications—allowed it to post impressive revenue gains in product segments where it was a

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relative newcomer. Nortel seemed poised to exploit new Internet technologies and an expected wave of international deregulation in this sphere. Using an aggressive acquisition strategy, Nortel grew quickly and well beyond North America. As a result, analysts praised what they perceived to be "solid, sustainable growth" from large R&D expenditures fuelling a "perpetual surpassing" of earnings expectations.[4] Nortel's share price more than tripled in four years. By mid-2000, it reached a peak of more than CAN $200 per share.[5]

Starting from a strategy of being in every high-growth area in telecommunications, and benefitting from tailwinds due to regulatory and market conditions, Nortel tripled its sales and multiplied its pro forma operating profits severalfold within five years (1996–2000). Consequently, the media proclaimed CEO John Roth a man of boldness and vision in possession of a Midas touch.[6] This mania also spread to the analyst community, on which the market grew increasingly reliant during the proliferation of the technology sector in the late 1990s.

Nortel greatly increased its institutional investor ownership as more analysts hailed its performance. However, it appears that analysts grew lazy in their assessments during this time. They justified high-priced acquisitions such as the $3 billion purchase of Qtera, a firm with no sales; failed to critically scrutinize accounting changes that had revenue impacts; and cheered questionable spin-offs. Meanwhile, government regulators draped the company with the Canadian flag as a symbol of national economic vitality. In short, everyone wanted to believe in the Nortel supernova.

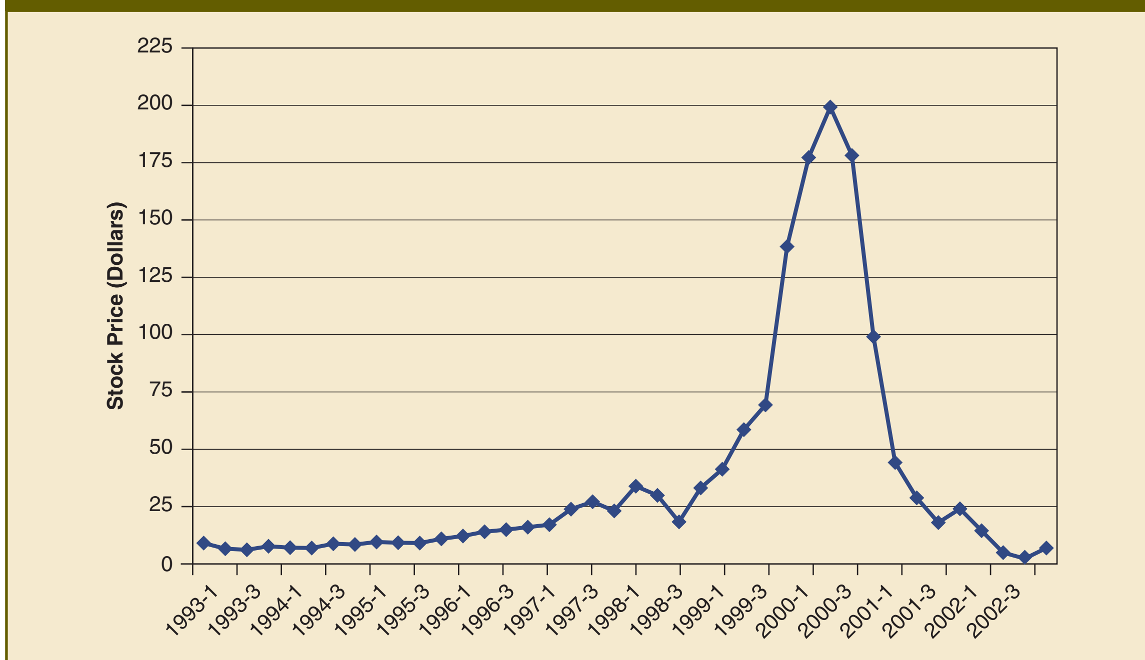
Nortel's fall from grace came swiftly and on many fronts. Its market capitalization climbed to an all-time high of $398 billion in September 2000. Two years later, in August 2002, the amount had plunged to just $5 billion. Beneath the unsustainable rate of growth and earnings lay massive accounting financial irregularities that had seriously manipulated results for some time. Not only could analyst targets no longer be achieved, but good will had to be reinforced. For years, a cloud would hang over accounting results reported by Nortel, including the perennial belief that the company had "cookie jar reserves" usable to normalize results.[7] Ultimately, Nortel announced several restatements, including the largest one in Canadian history. For a visual summary of Nortel performance, Exhibit 1 depicts the market value of Nortel over the period 1996–2003.

The accounting problems led commentators to retroactively question previously unassailable acquisitions. In 2001, trading in Nortel stock was temporarily suspended as the trading price went into a free fall. Before it was over, more than two-thirds of Nortel's workforce would be discharged. Several waves of high-level corporate executives resigned, including John Roth in November 2001. Frank Dunn, the former CFO, was appointed to the helm. Investors complained that even in its downward spiral, these executives received bonuses and issued excessively optimistic projections.[8] Soon there would not be much left other than the lawsuits alleging issuance of misleading financial statements and blatant insider trading.

Nortel's fall had been as steep as its rise. Its share price of more than $200 dropped to $0.67 at its nadir; Nortel left more than 60,000 employees without jobs. In the meantime, the Securities and Exchange Commission (SEC) brought civil fraud charges against Frank Dunn for financial improprieties relating to revenue recognition and earnings manipulations in the 2000–2004 period.

The steep rise and the dramatic fall after the year 2000 can be understood in terms of equity "overvaluation."[9] Overvaluation occurs when there is a large deviation between share price and underlying value, when there is a near impossibility in delivering to expectations. The conception

Exhibit 1 The Stock Price of Nortel over the Period 1996–2003



is that once overvaluation occurs, it sets in motion unmanageable organizational processes. The end result is that the market exacerbates "agency" problems between managers and owners, rather than alleviating them. Specifically, market delusion prompts value-destroying managerial behavior. In other words, if expectations are too high, then management starts taking even bolder risks, thinking that those could pay off. Unfortunately, such behavior fails more often than it succeeds, with calamitous results.

Overvaluation was a particularly severe problem at Nortel due to augmenting factors: equity-based compensation reliant on the realization of market expectations, a nonfunctioning board, and price pressure exerted by short-term investors (all to be discussed). Dishonesty in the earnings management game sets irreversible forces in motion, as borrowing from future revenues necessitates even further borrowing in subsequent periods. The consequence was a total destruction of Nortel's core value; the company eventually liquidated and ceased to exist in January 2009.

Telecommunications Industry

Beginning in the early 1980s, the telecommunications industry's parameters began to shift rapidly. First, the breakup of American Telephone &Telegraph (AT&T), one of the world's largest corporations and a telecommunications monopoly in the United States, led to the creation of smaller regional operating companies. All of a sudden, these now-independent telecom operators became free to purchase their equipment from suppliers other than Western Electric, an AT&T subsidiary.

Second, the phenomenal growth of the cellular market further expanded the market for telecom equipment manufacturers. For instance, by 1987, the United States had 1 million cellular subscribers.

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Third, one of the biggest influences on consumers was the introduction of personal computers by IBM and Macintosh. These desktop computers would later bring the Internet into the businesses and homes of millions.

Lastly, more and more national telecom companies (e.g., British Telecom) were being privatized to encourage competition. This opened up additional markets that had been previously controlled by domestic manufacturers.

The 1990s saw a continuation of growth in the industry and a buildup of the telecommunications bubble in the ensuing years. Although primarily an obscure application in the 1980s, the Internet soared in popularity and became a tool of mainstream life. The cellular industry also continued its rapid growth as U.S. subscribers rose to 25 million in 1995. As the end of the 1990s approached, tens of billions of dollars in capital were being relentlessly poured each year into the infrastructure of the much-hyped future of the telecommunications industry. Over a period of three years, more than 50 million miles of fiber-optic cables had been installed, enough to go back and forth across the United States 17,000 times.[10]

Mergers and acquisitions were the source of daily news in the telecom industry. Large telecom companies sought to make themselves more efficient and competitive by acquiring smaller ones. The belief that a great economic payback loomed on the horizon caused the bubble to grow as people and companies continued to inject capital. At the start of 2000, mergers still dominated the news.

Toward the end of 2000, however, there were troubling signs that the telecommunications industry was faltering. British Telecom's and AT&T's proposed merger was terminated, and spin-offs began to characterize the day. The confidence and get-rich-quick mood of the previous decade was replaced by uncertainty. The year turned into a "dot.com" disaster as venture capital dried up, resulting in layoffs and bankruptcies. Events continued to turn negative in 2001. Companies such as Nortel lost record-breaking amounts of revenue in as little as one quarter.

The John Roth Era at Nortel

John Roth started his career at Nortel in the area of engineering and operations in 1969. In 1997, he became CEO of Nortel Networks (known at that time as Northern Telecom). Although the prospect of being the top executive at Canada's largest technological company would seem exciting to most people, Roth was initially unsure if he wanted the job. However, while pondering his future at Nortel, Roth envisioned a new direction for the company.

In 1997, Roth informed employees that Nortel was making a "right-angle turn" toward Internet technology. Despite opposition from Wall Street, the media, and his own employees, Roth was convinced that Nortel could become a global brand name associated with the Internet. In particular, Nortel was going to invest heavily in optical equipment to increase Internet bandwidth.

Roth went shopping for Web-tech companies, and, in May 1998, Nortel announced the purchase of San Francisco–based Bay Networks for US $9.1 billion in a share-for-share deal. In September of that year, the company renamed itself "Nortel Networks" to reflect its new focus on networking technology. Nortel made no less than 17 additional acquisitions over the next 30 months. The announced purchase prices for all these acquisitions totalled more than US $33 billion.

The media played an important role in the tenure of John Roth as Nortel's CEO. Roth took a proactive approach in using the media as a promotional channel for Nortel. The media-savvy CEO used press releases to influence public perception of his company and its stock price. After their initial surprise of how Roth was transforming Nortel, the media began to shower the CEO with praise. Roth's new vision for Nortel made him a regular feature story in newspapers and magazines. Many publications featuring Roth echoed sentiments similar to the following: "John Roth is a man of boldness and vision, one who would rather strike than be stricken."[11] He was portrayed as a leader who was not afraid of change.

In 2000, Dave Powers, a tech analyst with Edward Jones & Co., stated that "The problem was with investor expectations. The stock was priced for perfection and now the news is less than perfect."[12] Consumer confidence in Nortel stock was so high that it became ultrasensitive to forecasts. Analysts expected Nortel to grow at an extraordinary rate, and any growth that was less than outstanding hurt the company's stock. David Einstein claimed that although Nortel's stock had underperformed compared to the unrealistic forecast, "Roth isn't finished—not by a long shot."[13] Indeed, Roth was later named Time's Canadian Newsmaker of 2000. This unwavering belief in the media's perception in the abilities of Roth was commonplace during the CEO's early stages.

Nevertheless, problems started to surface. Upbeat projections seemed not to materialize. To analysts, it appeared Nortel was giving "double guidance"—negative advice to some analysts and encouragement to others. "We all sat up there looking very evasive," recalls Roth, "and the more evasive we looked the more the audience was sure we were hiding something, and everything just started to tailspin."[14] Within a couple of days, during the week of September 28, 1998, Nortel's stock dived 20 percent, vaporizing $9.1 billion in market capitalization. A subsequent class action lawsuit alleged that executives kept quiet about a falloff in business to ensure completion of a merger with Bay Networks Inc.

Subsequently, the stock began to implode after Nortel reported softer than expected third-quarter results in 2000. The stock lost over $20 (22 percent) overnight during the third week of October. Readers of Nortel's October 24, 2000, third-quarter report to shareholders would not know anything was wrong: "We are extremely pleased with the strong growth in the quarter which reflected our continued strength and leadership in the key growth areas." Roth was quoted as saying,

> *Looking forward to 2001, we expect the overall market to grow in excess of 20%. Given our strong market position and industry leading networking solutions, we expect to continue to grow significantly faster than the market, with anticipated growth in revenues and EPS from operations in the 30 to 35% range.*[15]

During Nortel's stock price decline, executives at the telecommunications giant were constantly bombarded with accusations of unethical conduct. The criticism reflected the major stake that many Canadians and investors worldwide had within Nortel. People were directly and indirectly affected by the company's decline because Nortel occupied such a large percentage of the Canadian economy. Things only got worse in April 2001 when Nortel reported a quarterly loss and said that it would reduce its workforce by 20,000. Roth was rocked by charges that he telegraphed his profit concerns to select analysts. He also had to defend fellow executives who sold

vast amounts of stock weeks—in one case only days—before the disastrous results announcement.

Nortel's shareholders and the Canadian public were reeling from the feeling of helplessness as the stock continued its freefall throughout 2001. Many lost their savings. As to be expected, the media perception of Roth changed when Nortel's stock price began to decline for the long term. Suddenly, Roth was hailed less and less for his plans of grandeur and more and more criticized for the instability of Nortel's stock price. From his appointment as CEO of Canada's most successful high-tech company to his retirement in November 2001, the media perception of Roth often reflected the state of Nortel's stock price. From high praise and adoration to a barrage of criticism and disbelief, the media's love for Nortel's CEO at the time quickly waned as troubling times set in.

Nortel and the Usual Suspects

So what happened to Nortel? Corporate governance is often examined from the perspective of solving the "agency" problem.[16] Agency theory is defined generically as a contract wherein one party (the principal) retains another (the agent) to accept the delegation of the principal's authority to accomplish some purpose. In a publicly held company, real control over profit-seeking affairs is maintained by company managers, not the owners. As a result, aligning the incentives of those in control with those at risk becomes fundamental. For instance, agents (the managers) possess varying degrees of moral hazard for being less than completely forthright stewards of principals (shareholders). However, since principals are aware of these temptations, contracting efforts will be made to impose costs upon agents whose fiduciary adherence cannot always be known. Alternatively stated, agent contracts provide incentives to ensure that agents expend the desired effort and truthfully reveal the private information they may possess.[17]

Various incentives and motivations given to Nortel's top management, and their ensuing actions, led to the company's meltdown. Four aspects in particular were board of director composition, executive compensation, ownership structure, and earnings management.

Board Structure

Agency theorists predict that agency costs can be reduced through a strong internal mechanism of control, namely, an independent board of directors composed of non–executive directors who are nominated and elected by shareholders. Board of director members have a legally binding fiduciary duty to act in preserving the interests of the owners. Evidence shows that an independent board of directors is effective in reducing agency costs.

Although Nortel's board of directors was independent, it still fell short along three other dimensions: board size, the presence of financial experts, and the multiple directorships held by board members. With respect to board size, current reasoning prescribes that as board size increases, boards become less effective at monitoring management because of free-rider problems amongst directors and increased decision-making time.[18] For example, researchers report that companies with smaller boards have higher market valuations (arguing for a threshold of nine directors per

firm).[19] For Nortel, the 12-member board was larger than that prescribed by studies, a characteristic that could have contributed to board dysfunction.

From a financial expertise point of view, independent board members play an important role in monitoring the financials of the firm. It has been shown that the probability of accounting restatements is significantly lower in companies whose boards or audit committees include an independent director with financial expertise.[20] After the fall, advocates of the Nortel board cited that it was not possible for the board to detect financial irregularities because it relied on management in the communication and verification of financial results.[21] According to one account, "the Board knew so little about the company's operations that it did not even know how it made money—how revenues, expenses and profits were made, booked, adjusted and finagled."[22] Additionally, the company delayed the appointment of financial experts to the board to handle the financial crisis. The former CEO of the Royal Bank of Canada, a chartered accountant, was appointed only in 2001.

A further reason for board dysfunction can be attributed to the multiple obligations that non–executive board members had. Busy directors increase agency costs because they are too involved with other responsibilities and obligations to monitor company activities and do not serve on important board committees.[23] At Nortel, with the exception of one director who had only two directorships, the board members had on average 5.8 directorships, and four board members were already CEOs of other companies.

In sum, Nortel's independent board did not possess the necessary expertise and was too busy to monitor managerial decision making.

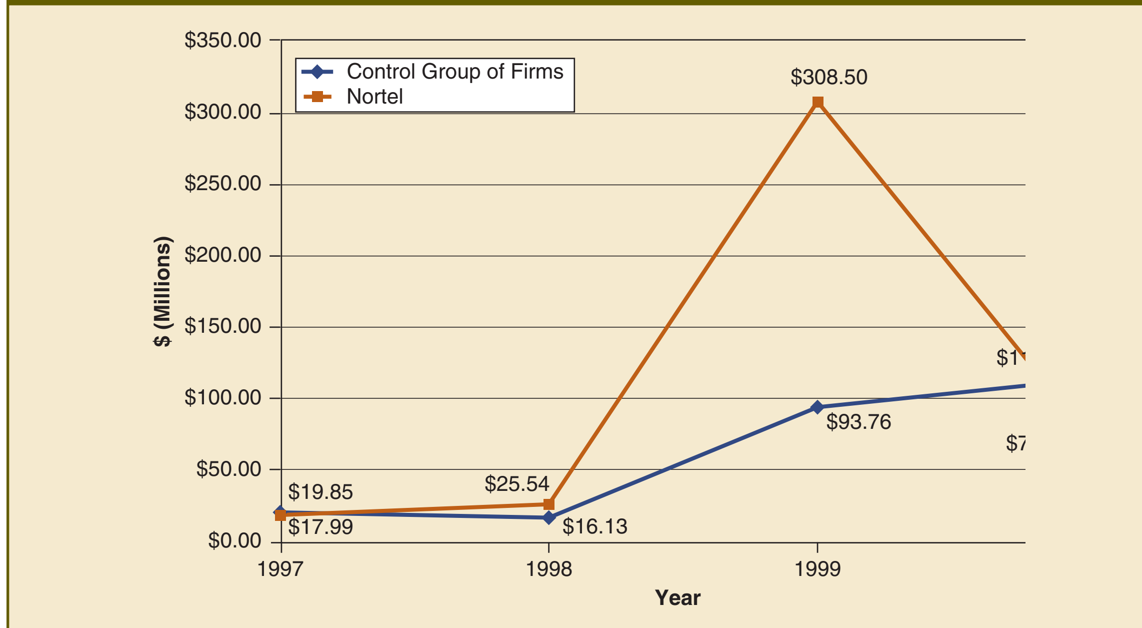
Executive Compensation

Executive and owner incentive alignment is the most direct way to address the agency problem. Currently, stock options constitute more than half of the compensation package of top corporate officials in publicly traded corporations in the United States.[24] That the individual is personally enriched by the very indicator (stock price) that enriches all shareholders and that is the foremost indicator of company success would seem the epitome of goal congruence.

Nortel followed a compensation strategy heavily based on stock option compensation. The fixed salary awarded to the CEO amounted to a bit less than, or around, $1 million a year. Short-term bonuses reached $1.3 million in 1998, $4.2 million in 1999, and $5.6 million in 2000. According to Nortel's 2000 and 2001 proxy statements, the most heavily weighted driver for bonus compensation was revenue, followed by operating earnings per share (i.e., non-GAAP [Generally Accepted Accounting Principles] earnings). Thus, on a straight cash basis, Nortel's CEO had a strong inducement to engage in an unbridled growth strategy, mostly through acquisitions (without any due recourse for GAAP earnings).

John Roth had a generous compensation package that vastly exceeded those of his peers. In 2000, Roth received a bonus of $5.6 million. In comparison, during the same year, the CEO of Lucent did not receive any bonus payment, and the CEO of Motorola received a $1.25 million bonus. Exhibit 2 shows the compensation of the Nortel CEO compared to the industry median (the peer group is composed of Alcatel, Cisco, Ericsson, Lucent, etc.). The $308 million earned by Roth in 1999 by far surpasses the earnings of other executives. For 2000, however, the value of Roth's stock options was lower than the industry median because, by the end of the year, Nortel's stock price was in its steep decline.

Exhibit 2 The Dollar Value of Options Held by the Nortel CEO, Vis-à-vis Those of Peer CEOs



Source: Based upon data from Execucomp.

Excessive executive stock options have been associated with several market shenanigans during the late 1990s: earnings manipulations, information manipulation, fraud, and restatements. The underlying economics behind this problem is simple. Options covary with stock prices, and when stock prices exceed a threshold amount (the exercise price), the stock options can be sold for a significant profit. Given the necessity to beat this threshold, CEOs and other executives are pressed to maintain good performance and perceptions of future performance; otherwise, their options are worthless—thus, the clear and ever present incentive to manipulate earnings. Such necessary ingredients, abundantly present at Nortel, were one of many factors that led to its financial collapse.

Ownership of Nortel

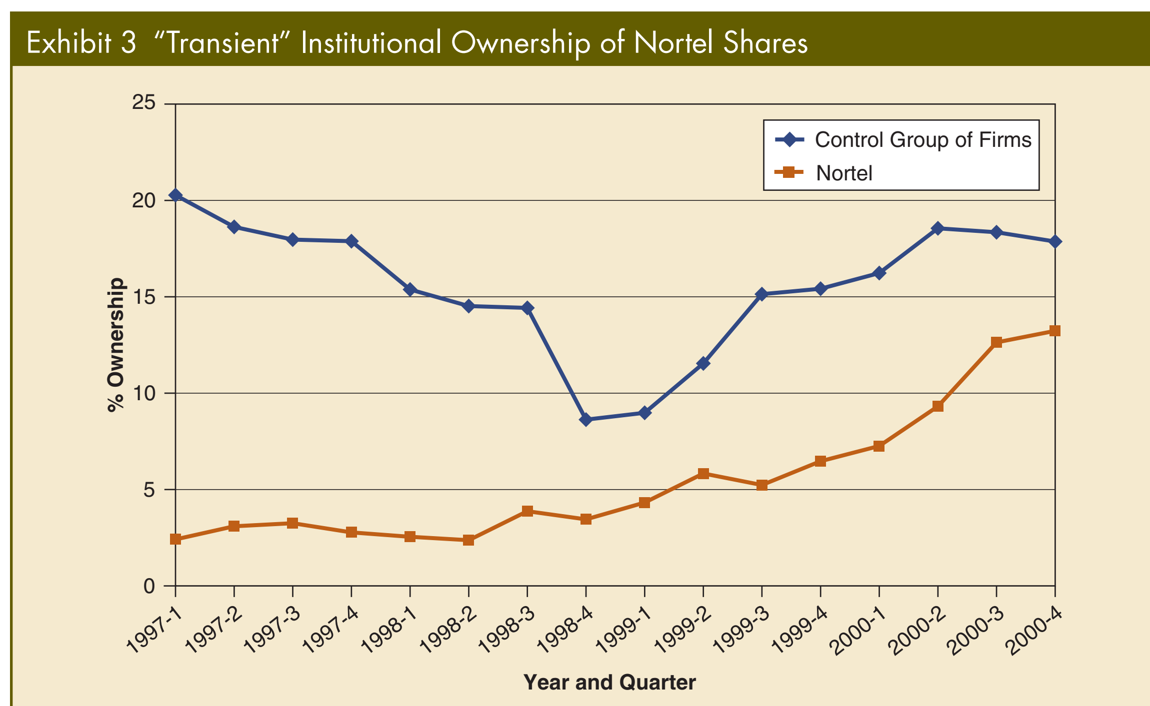
Nortel's growth in the late 1990s, as well as its emerging presence on the U.S. market, led many large institutional investors (often U.S.-based) to take notice of the Canadian telecom giant north of the border. Consequently, Nortel's shareholder base saw an increase in the number of institutional owners holding Nortel stock. This increased visibility also led to an increase in a category of institutional investors known as "transient" institutional investors, which are characterized by short-term trading and high portfolio turnover.[25] Whereas "dedicated" institutional investors provide market stability through a tendency to "buy and hold," transient institutional investors seek short-term advantages through a trading strategy featuring less commitment to fundamental value and higher turnover based on even brief price turbulence.

This change in the Nortel shareholder base saw an increasing number of transient institutions trading on Nortel stock, increasing the volatility of its share price. Consequently, this increased Nortel managers' incentives to meet and beat earnings targets and, in turn, led to unrealistic benchmarks that led to fraud.

Global capital markets are increasingly characterized by the concentration of shares held by large institutional investors such as pension funds, investment banks, and mutual funds. It is estimated that institutional ownership of public corporations' common stock has increased from 6 percent in 1950 to about 60 percent of the stock of the 1,000 largest U.S. corporations in 2010. Institutions are of many types and of diverse strategies and trading horizons. Transient institutional investors, who have short time horizons and quick trading strategies, are particularly known to influence managerial behavior. They trade on short-term price movements and are likely to exit firms whose performance falls short. As a consequence, managers who are pressed to keep up demand for shares and maintain stock prices have to maintain performance in the presence of such unstable ownership; as such, they have greater incentives to manipulate the company's earning statements.

Exhibit 3 depicts the increase of transient institutional ownership of Nortel stock from 1997 to 2000. Transient ownership increased from 2.5 percent in 1997 to about 13 percent in 2000. This increase put additional pressure on John Roth and other Nortel managers to meet unrealistic Wall Street expectations and manipulate income, which resulted in fraud and financial meltdown.

Exhibit 3 "Transient" Institutional Ownership of Nortel Shares



Source: Based upon data from CDA Spectrum.
Institutional classifications generously provided by Brian Bushee.

The Role of "Street" Earnings and Financial Analysis

At a time when 9 of the world's top 20 largest companies were in the telecommunications industry, the number of analysts following Nortel increased from 12 in the early 1990s to a high of 37 in 2000 at the end of the Roth era. In a new and booming industry such as the telecom industry, the importance of analysts in predicting and explaining company performance became central to stock market operations.

Toward the end of last century, manager-analyst interaction was characterized by optimistic analyst forecasts that drove stock market valuations higher, which in turn pressured managers to meet those forecasts. This institutional background provided the ingredients for the creation of the "benchmark beating game." Analysts provided overly optimistic forecasts to generate trading sales and obtain lucrative investment banking contracts. Managers, whose compensation rested on stock and stock options, had every incentive to meet or exceed these forecasts to preserve and enhance their wealth. The benchmark beating game, in turn, gave managers an incentive to manipulate the earnings numbers to achieve forecasted benchmarks. Consequently, many firms pursing this strategy experienced drastic market downturns, either because expectations about the sustainability of their earnings growth were unfounded or because manipulated earnings were not persistent. Eventually, the real performance of those firms was unmasked.

The late 1990s saw a highly nuanced earnings management process. Managers were no longer passive when estimating future earnings. Companies took liberties in the way earnings were measured, after departing from GAAP. Practice emerged whereby key executives would announce "pro forma" earnings per share (EPS), more colloquially known as "street earnings."

Nortel pursued this methodology to beat the market benchmark. The company began reporting earnings on a "continuing operations" or "street earnings" basis that excluded many line items such as extraordinary charges, unusual items, depreciation, and charges from mergers, line items that the company classified as "nonrecurring" or "noncash." This subtle form of earnings management aided managers in disguising poor performance. Firms strategically disclosed such pro forma earnings when there was a greater incidence of losses, a higher proportion of special items, or a greater frequency of negative earnings surprises. Exhibit 4 depicts the relationship between GAAP earnings and street earnings for Nortel from 1995 to 2001.

In the pre-1997 period, perfect harmony existed between Nortel GAAP and street earnings. However, after the ascendancy of John Roth in 1997, significant deviations occurred. These deviations were always in favor of an increased reported income when such reporting was done utilizing street earnings. Additionally, deviations between the two performance measures was facilitated through the reporting of income by decreasing special items that were included in GAAP EPS but excluded from street earnings. It is notable that such special items were absent in the pre-1998 period.

In addition to this striking contrast between street and GAAP earnings, Nortel was also a consistent beater of market benchmarks, that is, until its downfall. These benchmarks were important because they were prime inputs of investor valuation models. In the benchmark beating game, managers whose firms met the market benchmark or exceeded it saw their company stock prices increase, whereas companies that missed the forecast saw their stock prices tumble. This dynamic in turn gave managers, especially managers with large magnitudes of option compensation such as John Roth, to consistently try to meet and beat analyst forecasts to experience increasing stock prices and

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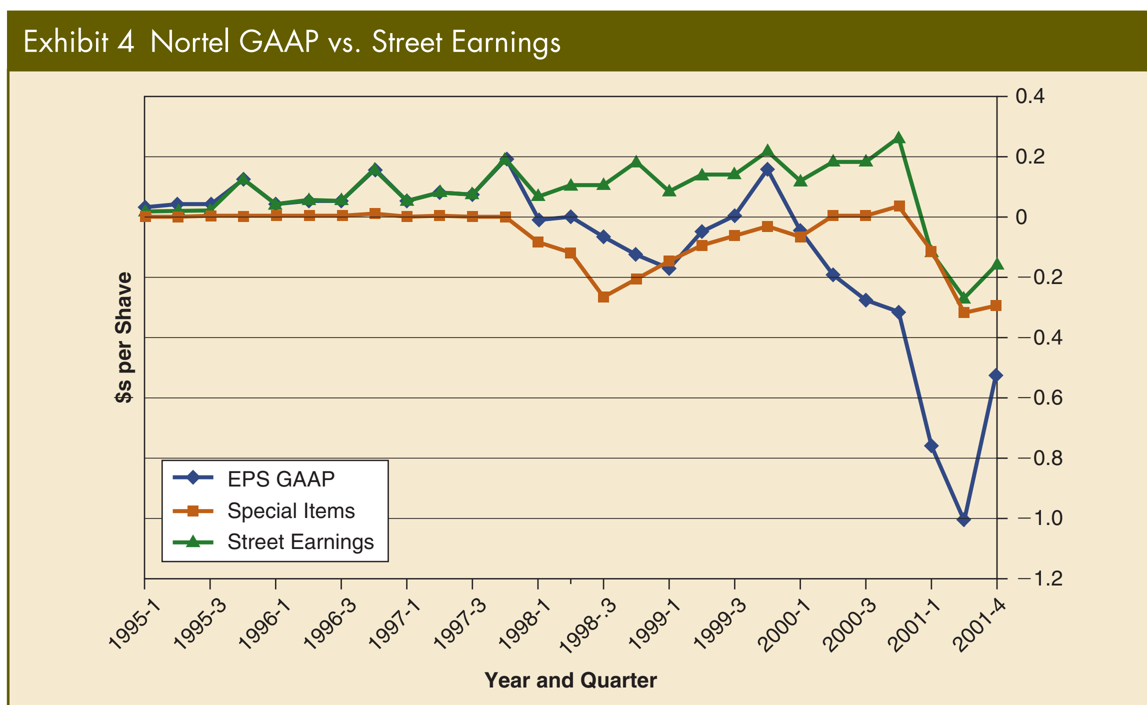
Exhibit 4 Nortel GAAP vs. Street Earnings



Source: Based upon data from Compustat and I/B/E/S

see the value of their options skyrocket. Exhibit 5 graphs Nortel's performance with respect to the market benchmark (sell-side analyst consensus forecasts), compared to a sample of control firms. When other telecom firms experienced large fluctuations in their reported earnings w.r.t. analyst forecasts, Nortel was relatively stable.

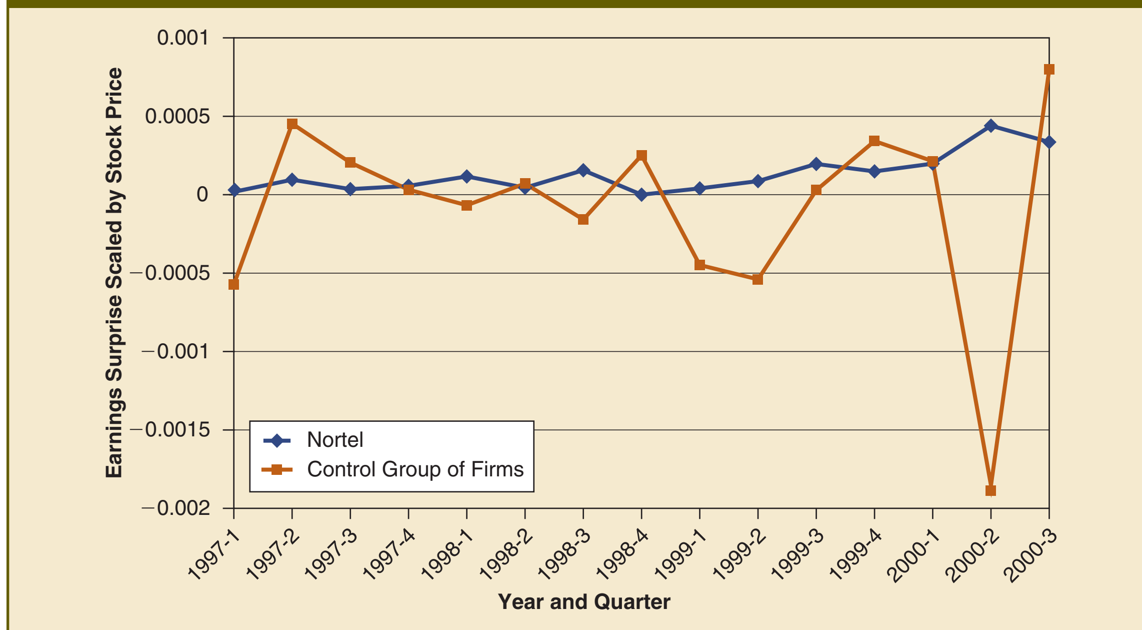
Exhibit 5 indicates that Nortel had an active policy of consistently beating the market forecast, whereas other telecom firms had more uncertain prospects. Nortel never missed a benchmark over the 16 quarters of this study. This benchmark beating game that Nortel was so successful in employing benefitted its executives' wealth through an appreciating stock price, and it reduced the likelihood that its stock price would plummet because it missed forecasts. This generally gave the impression that Nortel was a firm that met the market's expectations and was on the road to prosperity.

Fraud, Restatements, and the Death of Nortel

Given the incentives and Nortel's managerial zeal, the passing of time unraveled a financial fiasco of gigantic proportions. In the years 1999 and 2000, Nortel booked $3 billion of sales that should have been accounted for in 2001, 2002, and 2003. This fooled the market by portraying an impression of Nortel as the standard bearer of Canadian technological advancement. Details in the 2003 annual report show that this accelerated revenue recognition measure added more than $0.40 of EPS in 2000 and raised the growth rate by at least 15 percent.

On January 11, 2005, Nortel Networks Corporation refiled its 2003 financial statements. These statements included restatements for the years 2001 and 2002,

Exhibit 5 Nortel Earnings w.r.t. Consensus Analyst Forecasts



Source: Based upon data from I/B/E/S and CRSP

and the revision of previously announced interim results for the year 2003. A year earlier, Nortel filed restatements for the year 2000.

Nortel's accounting practices led to an investigation by an independent review committee, which found that noncompliance with GAAP and accounting fraud were undertaken to meet internally imposed earnings targets. Although many of the provisions were small in absolute value terms, the aggregation of those provisions turned profits into losses. The former global player was reduced to a fraction of its size. Nortel's fall from grace came swiftly and on many fronts. Nortel was liquidated in 2009, not surviving the global downturn.

QUESTIONS

1. Described the factors that contributed to the rise and fall of Nortel.
2. What mechanisms should be put in place to better align managers with the interests of shareholders?
3. Would you describe the meltdown of Nortel more as a failure of "people" or of "capital market processes"?
4. What happened to Nortel is similar to what happened to WorldCom and Enron in the early 2000s, and to Lehman Brothers, Citigroup, and many other banks during the 2008 financial crisis. Why do businesspeople keep making the same mistake?
5. Discuss how to prioritize the following remedies to stop such recurrences: business education, regulation of accounting/financial markets, regulation of incentives, or regulation of punishment.

NOTES

[1] Some substance of this case derives from Timothy Fogarty, Michel L. Magnan, Garen Markarian, and Serge Bohdjalian, "Inside Agency: The Rise and Fall of Nortel," *Journal of Business Ethics*, 84, 2 (2009), 165–187.

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