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What was Huxley Thinking?

W. Rocky Newman
Editor-in-Chief

Recently, while traveling, I was listening to a discussion of Aldous Huxley's *Brave New World* on National Public Radio. For most of us who read the book in high school, we remember it as a futuristic look at a "Fordist" world where a stratified super society lived very uniform lives within a hierarchical structure. Few had choices and the uniqueness of a person's life was limited by their station in society. Democracy was obsolete and the very highest class of people called controllers made all decisions—ostensibly to better society as a whole.

I tried to put myself in his place. Huxley's world of the late 1920s (he first published the book in 1932) was one of great economies of scale. Henry Ford set the pace by building a completely integrated mass production system that he claimed could take iron ore from Minnesota and put a Model T into a customer's driveway in 84 hours. His system made products affordable to the masses. One drawback was exemplified by the paternalistic statement he once made in response to a question of color choice saying "customers could have any color they wanted as long as it was black."

Similarly, Huxley believed that the way to reach a global utopia, where everyone's needs were efficiently met, required a very inflexible centralized bureaucracy that dictated what was best for society. By today's standards the technology of his day was relatively simple, but efficiency meant mass automation and vertical integration. It simply wasn't cost effective to have customization or choices and who better to say those cars should be black and not green or red than the Alphas (Huxley's highest and most intelligent class)?

I then asked myself what was it he didn't see and it became obvious that had he written the book today, it would have taken a completely different direction. As Ford found out, the world's technology became too complicated for complete vertical integration in all but the simplest of industries. Now the much more complicated task of building a car is divided between the various intermediate

companies making the steel, the rubber, or the radios that go into a car. Now, where no one organization can oversee the complete production of what we now call the supply chain, it is competition between suppliers and cooperation between buyers and suppliers that makes the system efficient, not centralized control. As a result, the socialistic society that Huxley may have foreseen from his viewpoint has moved away from centralized controls toward a more capitalistic society consistent with decentralized competition.

A second issue he could not visualize was the impact of computers. Starting with the computerization of information flows of existing products and processes to the use of computers to design new products and process and then operate those processes, the computer has opened the door to economies of scope or choices. Mass customization is a concept unfamiliar to and unanticipated by Huxley but a reality today and in the future.

So looking down the road, a brave "newer" world will be one where products and processes become even more complex. Globalization, may in fact, mean more decentralization in organizations. Less vertical integration will lead to more outsourcing and downsizing of organizations. Choices to the consumer and corporate customer will increase and competition will push innovation. The catalyst, as many business and academic types see it, will be the ability of the supply chain to communicate and cooperate. We've already used the computer to help us run "Fordist" organizations as best they can be run. The growing complexity of the world is forcing us to reshape the pieces of the picture. Now we have to rethink the way we put the pieces together. If Huxley were alive today, I suspect he would be writing about some of the issues you'll see in the upcoming special issue on supply chain management.

Time to Change

*Glenn Corlett
Dean, College of Business
Ohio University*

In the two-and-a-half years since I left the business world to join the academy, I have been asked time and time again, "what is the biggest difference between the business world and the academic community?" Colleagues on the academic side expect an answer which describes the extraordinary concentration of intellectual capital within a small group of dedicated colleagues. Old friends from the private sector anticipate complaints about the lack of a rigorous work ethic in the tweed sport coat community. Both sides are less than satisfied when I reply that the biggest difference is in my paycheck. Consequently, I am forced to reflect more deeply on the experiences of the last thirty months to find a more meaningful response.

To start with, both groups are made up of intelligent, hard-working, motivated, dedicated, and talented people who are doing something they believe in and feel strongly about. Both sides follow a set of rules and procedures, which are either expressly spelled out or are learned by example, which direct the moral, ethical and procedural behavior within their organizations. Both communities are constantly confronting change, evolving markets, increased competition, and dwindling resources. The biggest difference that I have noted is the time that each group takes to respond to changes in their environment.

The business community is obsessed with the concept of time-to-market. Businessmen and women must react quickly to shifting demands of customers/clients, and competitors. Such rapid decision making can often lead to mistakes, lost opportunities, stress, and frustration. The academic community, on the other hand, is slow-to-market. The academy is careful and deliberate as they follow the principles of shared governance through a mirage of committees, councils, levels and layers until decision making is not timely and not responsive to the pace of change in the environment in which the institution operates. The resulting paralysis

often leads to mistakes, lost opportunities, stress and frustration. Obviously there are different paths to the same destination.

Good academics and good business people will point out the importance of careful monitoring of changes in customer behavior, changes in competitor response, and likely, they will advise you to monitor the changes in technology that affect your customers, your competitors, and you. Businesses react very quickly to these changes. The academy reacts slowly. Responsiveness to changes in customer demand is the core of a market-driven strategy. Concerns about changes in competitor strategy drive businesses to shorten time-to-market. Embracing rapidly changing technology enables businesses to be more cost effective and to be more responsive to customer demands. Indeed, we as academics teach business people how to develop strategies to deal quickly and effectively with change. Journals like this one are filled with advise on how to manage and harness change.

Nevertheless, the academic community does not respond quickly to the changes confronting our own industry. Few of us have offered programming for nontraditional students, despite the fact that the number of nontraditional students continues to grow at a faster rate than traditional student populations. Few of us offer meaningful and comprehensive distance learning courses which would enable students to pursue their degrees with greater flexibility. Few of us have rushed to offer curriculums designed to fill the demand for new skills created by the fast changing e-commerce environment. How many changes have we implemented in the face of growing competition from for-profit competitors



like the University of Phoenix, Western Governor's, Empire State, etc.? How many of us have forged meaningful partnerships with large employers to confront the corporate university phenomenon? And how many of us have used the power of the exploding technology wave to minimize the delivery cost of our product?

To be sure, all of us are busy maintaining our existing programs, recruiting students and faculty, soliciting grants and contributions, and complying with the endless administrative demands placed upon us. The process of making meaningful curricular changes in the academy is daunting. By the time one runs the gauntlet of department committees, college committees, university wide committees, associate provosts, provost, president and trustees, it is hard to recall what the original objective was when one began. Influencing pedagogical changes requires superhuman persuasive powers in addition to endless amounts of time. The approval processes for new degrees, or even new certificates, are so complex and time consuming that they serve as a major deterrent to new initiatives. And of course, there is no source of funds to acquire the technology that could make our product more cost effective and more meaningful to our customers.

The answers to all these problems lie within. We have the intellectual capacity and the managerial skills to overcome our historic time-to-change deficiencies. We need the common will to make it happen. I am very pleased that the AACSB leadership has acknowledged the necessity of continuing to evolve our product consistent with the changes in the environment in which we operate. I hope that all of you will support the AACSB in these efforts and will continue to work for timely responses to the changes affecting our industry. I am pleased to say that just as was the case in my business career, I am fortunate to be surrounded by people who can, and will, get the job done. ■

Where's the Cream Filling? Resuscitating a Beloved Brand

Charles A. Sullivan
Chairman & CEO, Interstate Bakeries Corporation

It wasn't all that many years ago, as perhaps you may recall, that certain marketing consultants and business writers proclaimed brands were dead. They quoted research figures indicating that consumers were insisting on quality, but not at the premium prices branded product often demanded. Generic was to be the watchword of the future.

Well, they got it half right. Consumers do demand quality, whether it is in an automobile, camera or a snack cake. But those same consumers also know that it's branded product that most often delivers the quality they expect.

That is not to say a particular brand will retain its power over competition ad infinitum. It takes an immense amount of effort and considerable expense to protect and build a valued brand. Ignored, or left to languish, even the strongest of brands can decline or die. As an example, let's examine *Hostess*, currently the No. 1 preferred brand of snack cake in the United States.

Not Dead, But Certainly Asleep

My company, Interstate Bakeries, is the largest baker and distributor of fresh bread and cake in America with more than \$3.5 billion in sales. However, just four years ago, we were less than half that size and struggling to hold onto third position in the tough baking industry.

At the same time in St. Louis, industry giant Continental Baking Company had fared no better, due in part to the steady decline in appeal of its *Hostess* snack cake brand. *Hostess* was first introduced in the early 1900s, and for decades *Twinkies*, *Cupcakes*, *Ding Dongs*, *HoHos* and other *Hostess* products dominated the snack market.

But by the 1990s, that was all history. The brand had gradually lost market share throughout the 1980s, and sluggish sales convinced Continental's management that *Hostess* was in the "inevitable" decline of an aging brand. They gave up attempts to make the brand more relevant. Profits were milked. Product quality eroded. Product size shrunk. And, the precursor to death of any brand, the decision was made to save money by cutting advertising. *Hostess* as a brand disappeared from the television and radio airways for more than a decade.

***Ignored, or left to languish, even
the strongest of brands can decline
or die.***



Snacking On The Upswing

Amazingly, the decline of *Hostess* came during an era when snacking was becoming much more a part of a kid's daily life. A recent study of 10-year-olds noted that snacking was on the increase, with the average child receiving more than a third of his or her day's calories from snacks—cookies, candy bars, crackers, muffins and, sometimes, snack cake.

Continental and IBC interpreted the research differently. Continental saw those figures as a negative trend, heralding the decline of snack cake. We perceived it a positive trend working very much in a baking company's favor.

Nevertheless, hoping to cut its losses, parent company Ralston Purina put Continental on the trading block. In 1995, IBC stepped forward as its buyer. At the time, conventional wisdom held this venture as not a particularly smart move. In fact, there were a few vocal industry experts who classified the merger as a bad decision. Why would IBC purchase a company twice its size, and particularly one that was losing money? Too big a risk, they said. Definitely, too big a risk.

You Don't Cross Chasms In Small Leaps

Was it risky? On the surface, yes, though the acquisition made perfectly sound sense to us. We saw great value, and incredible potential, in the under-utilized Continental brand portfolio. As we saw it, the *Hostess* brand wasn't dead by any means. It had been allowed to lie fallow and erode. If anything, the brand was just asleep.

Our initial proprietary research into whether this brand could indeed be saved proved most surprising. Despite

the lack of advertising support for better than a decade—in fact, the last *Hostess* pitchman of any consequence had been Howdy Doody—baby-boomer moms still remembered *Hostess* with a lingering fondness. They remembered the fun, likeable ads of the 1950s and 60s, and they remembered the delight of eating a *Twinkie* or *Cupcake* at home after a long day at school. But kids were another matter.

New Kids On The Block

Hostess had effectively ignored two generations of children. Moms occasionally bought *Hostess* brand cakes for their children, but their kids begged for other snacks. And there were a slew of snack products available—cookies, candy bars, fruit roll-up products—you name it. To make matters worse, one of our competitors—the dominant player in snack cakes at the time—had many of the same products as *Hostess*, but at about half the price. So, often as not, moms turned away from *Hostess* for something else.

Our greatest challenge was to become relevant and fun again. Kids liked the *Hostess* taste, but they frankly did not perceive *Hostess* as “cool.” In truth, they rarely gave much thought to *Hostess* at all. Our mission was clear: brand building, or more accurately, brand rebuilding.

Enter Two Fearsome Foragers

Our research showed two unanticipated strengths of our snack cakes. First, kids loved the cream filling. They would break open a *Cupcake* or *Twinkie* and lick out the cream filling. Our competitors, incidentally, did not have cream filling. And secondly, *Hostess* snack cakes were instantly recognizable to kids: the white icing squiggle on top of the *Cupcakes*, the distinctive dreadnought shape and golden color of the *Twinkie*, the round chocolate shape of the *Ding Dongs* and the rolled cake of *HoHos*.

We capitalized on these strengths with a unique television campaign called, “Where’s the Cream Filling?” It was a campaign about obsession—a craving so strong that it was nearly all-consuming.

The first commercial in the series employed a near-sighted bear that mistakes a mobile home for a *Twinkie* and hungrily rips into its roof. Disappointed, he angrily growls at a disgruntled couple, “Hey! Where’s the cream filling?” The second spot was a sugar-coated version of “Jaws” in which a sweet-toothed shark spots a sunbather in an inner tube closely resembling a *Hostess Cupcake*. He has the same response, “Hey! Where’s the cream filling?”

Building Brand Value

Unaided brand awareness, generally deemed the best predictor of brand selection, increased 10 percent during the first three years of the campaign’s run, which incidentally now includes disoriented raccoons, disgruntled aliens and a host of other myopic woodland creatures. Today, nine out of ten

children are aware of *Hostess* advertising and can describe the commercials in incredible detail.

But building a brand takes more than just clever advertising. Building a brand also is about meeting expectations and providing value. A serious mistake made by Continental management was the downsizing of its snack cakes without lowering price. Perceived value was nil as a result of this decision. Following the acquisition, one of our first changes was to increase the size of all our *Hostess* snack cakes a full 10 percent—and without adding to the price. We immediately put the value back into the *Hostess* to go with our promise of flavor, quality and variety—all delivered fresh at a fair price.

And is the brand building working? Yes. *Hostess* is now No. 1 in snack cake, and sales are growing every day. More than a billion *Twinkies* and *Cupcakes* alone were consumed just last year. That tells us we are successfully delivering on our brand promise, and because of that, *Hostess* again is a thriving, healthy national brand. ■

About the Author

Charles Sullivan is Chairman and CEO of Interstate Bakeries Corporation. Interstate Bakeries Corporation is the largest baking company in the United States with 67 bakeries, sales of over \$3 billion and 35,000 employees. Interstate Bakeries Corporation stock under the symbol IBC is traded on the New York Stock Exchange.

Mr. Sullivan began his career in banking, public accounting and the soft drink industry. From 1970 to 1979 he was President of Seven-Up of Indiana, a division of Westinghouse Electric. From 1979 to 1982 he was President of Canada Dry-New England, a division of Norton Simon, Inc. He joined Interstate Bakeries Corporation as part of Interstate’s acquisition of ten bakeries from American Bakeries in 1988. He became President and CEO of Interstate Bakeries Corporation in March 1989 and Chairman in 1991.

Mr. Sullivan is on the Boards of Interstate Bakeries Corporation, UMB Bank of Kansas City, JPS Packaging Co., and the Andersons, Inc. He is a native of Toledo, Ohio and holds a business degree from the University of Toledo (1959). He resides with his wife Jackie in the Kansas City, Missouri area.

Corporate Culture's Impact on a Strategic Approach to Quality

Scott A. Dellana, *East Carolina University*
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Abstract

The purpose of this research is to further examine the relationship between organizational culture and a strategic approach to quality, as embodied in Malcolm Baldrige Quality award criteria. To accomplish this, a questionnaire was developed for a postal survey. The questionnaire was based upon the Competing Values Model of Culture and the Baldrige Award criteria to define the position of the company in their strategic quality approach. This questionnaire was then sent to 1000 members of the American Society for Quality. A total of 219 usable responses were received and analyzed. The results indicate that higher Baldrige scores tend to be significantly related to the Adhocracy and Group cultural types.

KEY WORDS: Corporate culture, quality, quality management, quality strategy, TQM, Baldrige

Introduction

During the last decade many business managers have heard the call to champion a quality strategy for their organization. This is most often expressed in exhortations about the benefits of adopting a Total Quality Management (TQM) approach. Quality proponents assert that embracing a business strategy focused on quality will enable companies to attain lean and world-class status. Many reports claim that a movement of the company culture to a culture of quality is required for success in implementing a quality strategy approach (Anderson and Adams 1997; Chang and Wiebe 1996; Seraph and Sebastian 1993; Westbrook 1993). Unfortunately, there has been little consistency in defining the characteristics of a strategic quality culture. This can leave decision-makers unsure that the changes they are making to the company will facilitate the most effective transformation to a culture of quality.

Many writers refer to the development of a TQM culture in the organization (Shin, Kalinowski and El-Enein 1998; Porter 1997; Saraph and Sebastian 1993; Westbrook 1993). These reports, however, are mostly anecdotal or fail to clearly establish what constitutes a quality management culture in the context of established organizational culture models. In some cases, the results even appear contradictory. One study found no evidence to support the concept of a quality culture (Deshpande, Farley, and Webster 1993), while another claimed significant relationships exist between quality management implementation and organizational culture (Westbrook and

...there has been little consistency in defining the characteristics of a strategic quality culture.

Utley 1995).

Given this, the purpose of this research is to further examine the impact of organizational culture on the implementation of a strategic quality approach. To accomplish this, a survey questionnaire was sent to a group of companies to study the relationship of their corporate culture and quality strategy. The development of the questionnaire and the results of the survey are discussed in this paper, with implications for managerial decision making.

Measuring the Maturity of a Quality Strategy Implementation

One problem with studies of quality and culture is the apparent lack of uniformity in defining a strategic approach to quality. The predominant strategic approach to quality is generally found in the principles of TQM. Even TQM, however, is not consistently defined in the literature (Zeitz, Johannesson, and Ritchie 1997) and is often too general to be useful.

In order to obtain a practical and unified national consensus as to what is a strategic quality approach, the U.S. government established the Malcolm Baldrige National Quality Award criteria. The Baldrige criteria were developed (and continue to be developed) with the inputs of many quality experts throughout the United States. Joseph Juran, a recognized world leader in the quality movement, asserts that, "TQM consists of those

actions needed to get to world-class quality. Right now, the most comprehensive list of those actions is contained in the Baldrige Award criteria” (Juran 1994, p. 32). Hendricks and Singhal (1997) also used the Baldrige as a surrogate measure of TQM to study the relationship of financial performance and successful TQM practice. Thus, a practical measure of a strategic approach to quality (such as TQM) that has wide acceptance can be found in the Baldrige criteria. The criteria for the Baldrige are comprised of seven categories, which include: leadership, information and analysis, strategic planning, human resource development and management, process management, business results, and customer focus, and satisfaction (NIST 1996). To our knowledge, no researcher has used this generally accepted strategic quality framework to examine the relationship of corporate culture to a strategic approach to quality. It is this set of quality criteria that was used in this research to measure the strategic quality position of a firm.

A Model of Organizational Culture

Research has suggested that management is the key to quality improvement (Saraph and Sebastian 1993). Therefore, the culture must be one that will allow management to change and respond to market demands. A critical area for any company in today’s globalizing economy is the development of an organizational culture that lends itself to change and continuous

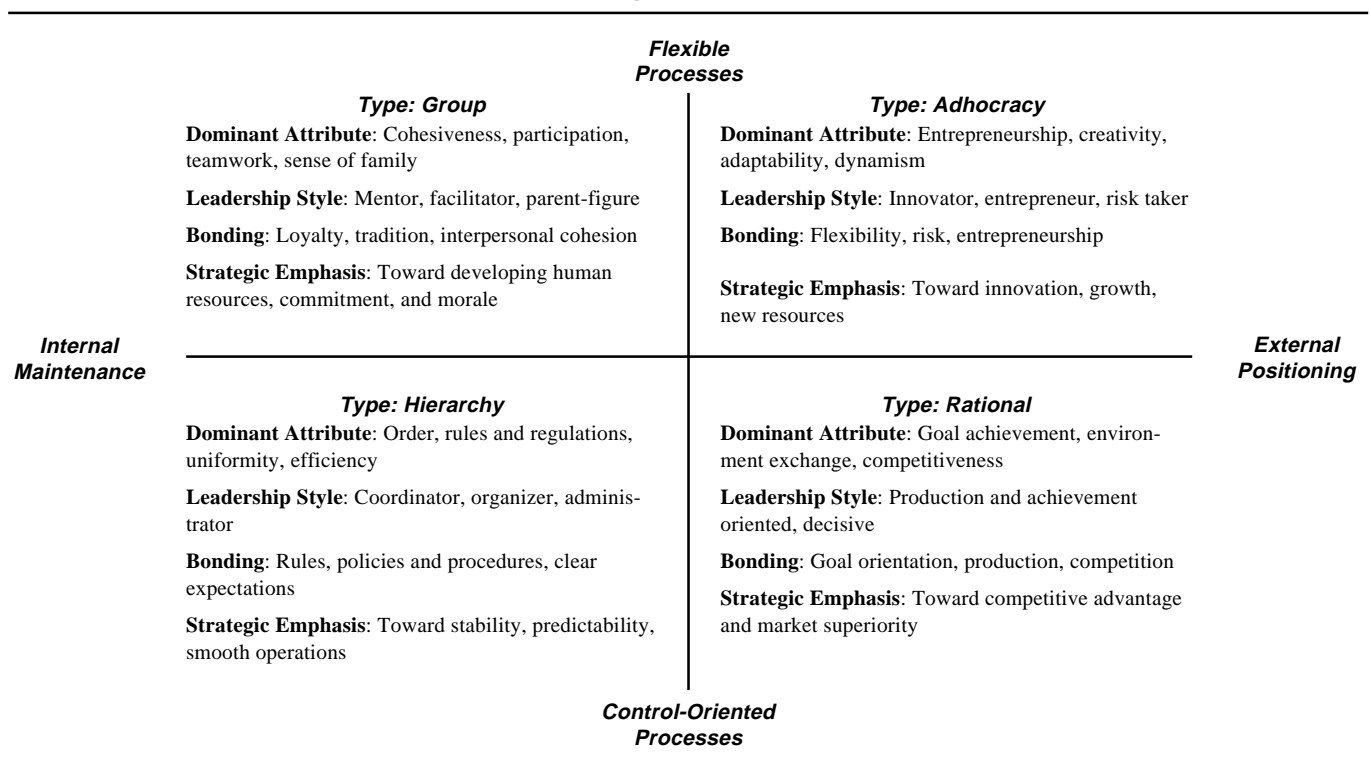
improvement.

The competing values model of organizational culture was used to draw inferences about the culture of the companies surveyed in this research. The competing values framework is a meta-theory originally developed to explain differences in the values underlying various organizational effectiveness models (Quinn and Rohrbaugh 1981). Its framework allows for the measurement of the structural and strategic components of organizations. The framework also allows one to categorize organizations into finite, definitive sets with specific traits and allows comparison across different organizations (Quinn and Kimberly 1984). Other quantitative culture models do not typically possess these characteristics (Sheridan 1992).

The competing values model consists of two axes that reflect different value orientations (see Figure 1). The vertical axis is the flexibility-control dimension that reflects organizational preferences toward structuring. Flexibility-oriented organizations support decentralization and differentiation, while control-oriented organizations support centralization and integration. The horizontal axis is the internal-external dimension. Internally-focused organizations emphasize maintenance of the existing system while externally-focused organizations seek improvements in competitive position by tracking environmental change. The four quadrants formed by the intersection of the two axes are labeled “Group,” “Adhocracy,” “Rational,” and “Hierarchical.”

One important caveat should be stressed about this

**Figure 1
The Competing Values Culture Model***



* Adapted from Quinn and Rohrbaugh 1981

framework. Though the framework is divided into named quadrants with distinct characteristics, no organization is likely to reflect only one value system. Instead, one would expect to find combinations of values in a given company, with some being more dominant than others (Quinn and Kimberly 1984). This means simply that a given organization could possess values from different quadrants, and thus could not be categorized as residing totally within one quadrant. Nevertheless, many organizations may have dominant sets of values that are oriented toward one of the quadrants.

Theory Development and Hypotheses

The cultural characteristics associated with the two axes of the competing values model should influence the acceptance and success of a strategic quality approach within a firm. The following sections examine both the proposed impacts of flexible vs. control oriented processes, and internal vs. external positioning.

Flexible vs. Control

When any new innovation, such as a strategic quality approach, is adopted and introduced into an organization, individual compliance with the organizational mandate generally will flow from factors such as trust and long-term commitment to the organization (Zammuto and O'Connor 1992); participation in decision making (Baroudi, Olson and Ives 1986; Franz and Robey 1986); and incentives. Previous research has shown that flexible-process organizations, such as those with Group or Adhocracy cultures, are positively correlated with a climate of trust, a positive attitude toward the organization, and equity of rewards (Zammuto and Krakower 1991). When compared to control-oriented firms, employees in firms with flexible processes are likely to have more trust in their organizations and also to be more knowledgeable about consequences because of their focus on participative management. This, combined with the fact that a strategic quality approach emphasizes continual change and improvement, leads to the belief that firms experiencing a high degree of success with a strategic quality approach will possess flexible processes. A company with these characteristics predominating would be classified in either the Adhocracy or Group quadrants of Figure 1.

Internal vs. External

Firms that have an external focus are more likely to be entrepreneurial and constantly seek out new avenues to either gain market share or enter new markets. Internally focused firms, however, are more likely to place an emphasis on technical efficiency, quality control, and protecting existing core markets. The strategy used by internally focused firms is often to maintain high quality by standardizing and controlling internal operations.

In addition, internally focused firms can be distinguished from those with an external focus based on the mechanisms they have to communicate management mandates throughout the organization (Quinn and Kimberly 1984). Internally focused firms are characterized by discussion, participation, documentation, and information management. Therefore, a company with these characteristics predominating would be classified in either the Group or Hierarchical quadrants of Figure 1. The communication mechanisms differ, however, between Group and Hierarchical cultures. Communication in the Group culture is carried out through interpersonal linkages and user involvement. Hierarchical cultures, on the other hand, use centralized facilities and formalized procedures to communicate mandates.

A strategic quality approach emphasizes continuous improvement through employee involvement. Thus, it would be expected that the discussion and participation that characterizes the internal focus of a Group culture firm would facilitate the success of a strategic quality approach.

The preceding discussion suggests that the ideal cultural profile to support the implementation of a strategic approach to quality as defined by the Baldrige criteria would be characterized mostly by the high flexibility and an internal focus of a Group corporate culture. This is supported by the research of Chang and Wiebe (1996), in which a Group culture was identified as ideal for TQM success. Therefore, the main hypothesis of this research may be expressed as follows:

H1: Organizations whose culture predominantly reflects Group values will possess higher overall Baldrige scores than organizations whose culture predominantly reflects Adhocracy, Rational, or Hierarchical values.

Note also that each cultural type is defined by the characteristics in the four constructs of Dominant Attribute, Leadership Style, Bonding Agent, and Strategic Emphasis. It follows that the characteristics for each of these constructs would also be predominantly characterized as those of the Group cultural type. Therefore, a set of lower level hypotheses may be expressed as follows:

H2: Organizations whose dominant attributes are cohesiveness, participation, teamwork, and a sense of family values will possess higher overall Baldrige scores than organizations with different dominant attributes.

H3: Organizations whose leadership style consists of mentor, facilitator, and parent-figure values will possess higher overall Baldrige scores than organizations with different leadership styles.

H4: Organizations whose bonding agent is characterized by loyalty, tradition, and interpersonal cohesion values will possess higher overall Baldrige scores than organizations with different bonding agent characteristics.

H5: Organizations whose strategic emphasis is toward developing human resources, commitment, and morale values will possess higher overall Baldrige scores than organizations with different strategic emphases.

Research Methodology

A questionnaire was developed to define both the culture and the strategic quality position of the organization. The strategic quality portion of the questionnaire was originally developed by Robert Cornesky of Cornesky and Associates, Inc. (1991) and has been updated and adapted to a total of twenty-five multiple-choice questions. There are two to five questions representing each of the seven categories of the Baldrige. Although better instruments may be currently available that measure quality, at the time this research effort was conceptualized the Cornesky instrument was the only available instrument that met our research requirements. The scale for each question on this instrument ranges from 1 to 5, with 1 representing roughly no activity and 5 representing roughly world-class activity. The culture section uses questions derived by Quinn and Spreitzer (1991) and are based on the competing values framework, with construct Cronbach alpha reliability values ranging from 0.71 to 0.79. This instrument is scored for each culture type by distributing 100 points to each category. The dominant culture type is then distinguished as the one accumulating the greatest number of points. A copy of the questionnaire can be seen in the Appendix.

This research was set up in four stages. Stage one involved the development and reliability test of the Baldrige questionnaire. The questionnaire was pilot tested and revised as needed with the help of a group of quality managers and employees at twenty-seven local companies. The pilot questionnaire had an overall Cronbach alpha reliability of 0.96. The category for Customer Focus had the highest reliability of the seven categories with an alpha of 0.84, while the category of Strategic Quality Planning had the lowest alpha at 0.70. The final form of the questionnaire was then sent to companies that were Baldrige Award recipients and was completed by their quality directors with comments for revision. No significant revisions were made to the questionnaire based on the responses of the Baldrige winning company representatives. The response group was then used for comparison with a larger survey sample to roughly determine the validity of the overall instrument. Stage two involved selecting an appropriate target population for the larger national survey group. The target group consisted of 1000 randomly chosen managers who are members of the American Society for Quality. These were respondents who were classified as managers in the organization – a group of approximately 29,000 individuals. The organization has separate categories for top managers, such as CEO and President. Our research was aimed more at middle to upper-middle level managers, since these individuals are likely closer to the corporate culture and quality climate on a daily basis. A total of 219 usable questionnaires were received from the national survey, yielding

a response rate of 21.9 percent. The responses were coded and input into SPSS. In stage three, quality program directors at six local companies provided in-depth interviews regarding quality and culture at their companies. These were companies known to have mature quality programs. Each program director completed the quality/culture questionnaire for their company from three perspectives – before their quality program was initiated (i.e., the past), currently (i.e., the present), and in an ideal state (i.e., the future). This information was helpful in providing a longitudinal dimension of quality and culture. The first three stages took place between the years 1995 and 1997. Stage four involved the analysis and statistical testing of the data using SPSS. The results of the data analysis and the statistical tests follow.

Results

The variables of industry type, company size, and age of TQM program were all considered factors that could impact corporate culture or quality program success. Therefore, questions were included on the survey to capture this information so that the effects of these variables could be controlled in the statistical analysis of the data. General information from the national survey regarding these variables is included in Table 1.

The equivalent average Baldrige score for the 219 companies in the national survey study was 535 with a standard deviation of 170. The high score was 925 and the low score was 229. The score for each category was the average of the scores for the questions in that category. The total equivalent Baldrige score was computed by taking a weighted-average of all category scores and multiplying the result by 200 to obtain a scale from zero to 1000. Category weights were derived from the 1996 Baldrige criteria.

The questionnaire was checked for reliability using the sample of 219 and also validity using the sample of Baldrige winners. For reliability, Cronbach's alpha was found to be 0.96 overall. Each category of the Baldrige demonstrated good reliability, with a minimum Cronbach alpha of 0.71 (Strategic Quality Planning) and a maximum alpha of 0.84 (Customer Focus and Satisfaction). Factor analysis for the Baldrige instrument actually yielded four main groups or constructs under varimax rotation, instead of the seven developed in the Baldrige. These resulted in four new categories which we titled Assessment and Customer Focus, Strategy and Innovation, Training and Development, and Leadership and Policy. The decision was made, however, to stay true to the Baldrige structure in developing company scores for this research. Later research efforts will focus on the new structure.

In an effort to gauge the validity of the instrument, twenty-five organizations that have won the Baldrige award were surveyed. Six of these completed and returned the questionnaire. The Baldrige winners had an average score of 840 with a standard deviation of 120. A student's t test was then performed comparing Baldrige winners to the overall industry. Using the questionnaire, the Baldrige winners were found to have a significantly higher equivalent overall Baldrige score than the group of 219 companies ($t = -4.3, p = 0.001$). In addition, all of the category scores for Baldrige winners were also significantly higher than scores for the group of 219 companies. Given this result, the instrument appears to be fairly reliable and valid for

Table 1
National Survey Sample Description

<i>Variable</i>	<i>Category</i>	<i>Percent</i>
Industry Classification:	Manufacturing	76
	Services	11
	Other	13
Number of Company Employees:	0-99	21
	100-999	48
	1,000-9,999	20
	10,000 or more	11
Age of TQM Program:	0-1.9 years	43
	2-4.9 years	33
	5-9.9 years	19
	10 years or more	5
Culture Types:	Group	17
	Adhocracy	18
	Hierarchical	19
	Rational	46

the constructs used.

The results for the analysis of the national survey of 219 respondents is presented first and is followed by the results for the six local case study companies. Full Factorial ANOVA was used to test for differences in overall Baldrige score by culture type. Full Factorial MANOVA was used to test for differences in Baldrige category scores by culture type. Full Factorial MANOVA was also used to test for differences in the sixteen culture elements by Baldrige score level. In all cases, control variables included industry class, employees, and TQM program age (if applicable). For all analyses a significance level of 0.050 was used. Homogeneity of variance (Levene's test) was acceptable in all cases and no significant interactions were found.

ANCOVA was used to examine Hypothesis 1. Variables for industry class, number of employees, and age of the TQM program were used to isolate the effects of culture. The results of the analysis are shown in Table 2. The Baldrige score for organizations with a Group culture were significantly higher than those with a Rational Culture. In addition, organizations possessing an Adhocracy cultural type scored significantly higher than those with either a Hierarchy or Rational culture. Individual categories of the Baldrige were also studied to isolate more specific differences. Table 2 shows the results of MANCOVA and post hoc comparisons examining the effects of cultural type on each of the seven Baldrige categories via contrast analysis using Bonferroni-type simultaneous confidence intervals based on the student's t distribution. Contrast analysis is the post hoc method employed in SPSS when covariates are present. The variables "Number of Company Employees" and "Age of TQM Program" were entered into the model as covariates instead of categorical treatments. This seemed to best represent the effect of these variables in the analysis. This analysis showed significantly higher Baldrige scores for Group culture as compared to Hierarchy or Rational in Human Resource Development, and for Group compared to Hierarchy in Process Management.

Interestingly, Adhocracy scored significantly higher than Hierarchy or Rational in Strategic Quality Planning, Human Resource Development, and Process Management. In addition, Adhocracy scores were significantly different than Rational scores in Business Results. These findings lent partial support for Hypothesis 1, but also point out that the Adhocracy culture type may also be more strongly linked to the success of a strategic quality approach than the Group culture type.

Hypotheses 2 through 5 examined the specific components of culture that impact a strategic quality approach. To analyze the data for these hypotheses, the Baldrige score for each company was placed into one of three categories based on the following range: Level A = 681-1000; Level B = 461-680; Level C = 0-460. A MANCOVA with post hoc comparisons was performed to determine if Baldrige scores differed by cultural type within each of the four following cultural dimensions: Dominant Attribute, Leadership Style, Bonding, and Strategic Emphasis. The results of this analysis, shown in Table 3, indicate that higher Baldrige scores tend to be associated with either the Group or Adhocracy cultural type. This is particularly true of Dominant Attribute and Bonding. Hypothesis 2 found partial support in this research. For Dominant Attribute, high Group and Adhocracy culture scores are present in organizations with higher Baldrige scores. Conversely, high Rational and Hierarchical culture scores are present in organizations with lower Baldrige scores. Hypothesis 3, on Leader

Table 2
National Survey ANCOVA for Baldrige and MANCOVA for the
7 Categories (controlling for industry class, number of
employees, and age of TQM program)

Category:	Group (n = 36) Mean/σ	Adhocracy (n = 38) Mean/σ	Rational (n = 89) Mean/σ	Hierarchy (n = 36) Mean/σ	F	p
Significant contrast comparisons are indicated by the first letter of each Culture type located above each mean (p < .05).						
Leadership	R* 2.99/1.09	2.67/1.05	G* 2.61/1.25	2.56/0.99	1.53	.208
Information and Analysis	R* 2.58/0.87	2.50/0.84	G* 2.25/1.01	2.40/0.79	2.01	.114
Strategic Quality Planning	2.55/1.27	R, H 2.99/1.22	A 2.16/1.46	A 2.09/1.16	6.06	.001
Human Resource Development and Management	R, H 3.01/0.94	R, H 3.02/0.90	G, A 2.54/1.08	G, A 2.40/0.85	6.19	.001
Process Management	H 2.69/1.00	R, H 2.73/0.96	A 2.38/1.16	G, A 2.27/0.91	2.81	.041
Business Results	2.70/0.89	R 2.82/0.86	A 2.42/1.03	2.50/0.81	2.86	.038
Customer Focus and Satisfaction	2.62/0.90	R, H 2.53/0.86	G, A 2.37/1.04	A 2.43/0.82	1.02	.384
Baldrige Overall	R 547/157	R, H 546/150	G, A 482/181	A 483/143	3.43	.018

* Although the overall model was not significant, between-subjects effects were significant at 0.05 level.

Table 3
National Survey MANCOVA for the 16 Culture Elements by Baldrige Level
(controlling for Industry class, number of employees and age of TQM program)

Baldrige Classes: Level A = 681-1000; Level B = 461-680; Level C = 0-460						
Culture Element:	Level A Culture Score Mean	Level B Culture Score Mean	Level C Culture Score Mean	F	p	
Significant contrast comparisons are indicated by the letter of each Level located above each mean (p < .05).						
Group Attribute	B, C 35.8	A 22.9	A 19.2	7.40	.001	
Adhocracy Attribute	B, C 31.4	A 14.5	A 10.9	18.54	.001	
Hierarchy Attribute	B, C 20.4	A 32.4	A 37.5	7.67	.001	
Rational Attribute	B, C 12.3	A 30.2	A 32.3	9.38	.001	
Group Leader	B* 22.7	A* 13.5	15.4	2.28	.105	
Adhocracy Leader	C* 29.2	25.6	A* 18.3	2.39	.094	
Hierarchy Leader	28.4	35.5	37.7	1.30	.276	
Rational Leader	19.7	25.4	28.6	1.07	.344	
Group Bonding	B* 29.5	A* 20.9	23.7	2.03	.134	
Adhocracy Bonding	B, C 27.6	A 18.7	A 16.1	4.59	.011	
Hierarchy Bonding	B, C 10.4	A 24.7	A 24.0	8.04	.001	
Rational Bonding	32.5	35.7	36.2	0.21	.808	
Group Emphasis	B, C 21.4	A 12.4	A 12.7	5.18	.006	
Adhocracy Emphasis	32.6	28.8	24.2	1.88	.154	
Hierarchy Emphasis	C* 16.3	22.4	A* 26.0	2.36	.097	
Rational Emphasis	29.7	36.4	37.1	1.13	.324	

* Although the overall model was not significant, between-subjects effects were significant at 0.05 level.

Style, found weak support with somewhat high Group and Adhocracy culture scores present in organizations with higher Baldrige scores. Hypothesis 4 found weak support. For Bonding, high Adhocracy culture scores are present in organizations with higher Baldrige scores, while high Hierarchical culture scores are present in organizations with lower Baldrige scores. Finally, Hypothesis 5 on Strategic Emphasis found partial support with high Group culture scores present in organizations with higher Baldrige scores. Therefore, for higher Baldrige scores, Dominant Attribute is mainly of the Group and Adhocracy culture types, Bonding is mainly of the Adhocracy culture type, and Strategic Emphasis is mainly of the Group culture type.

Case studies of six local companies were also performed to provide additional insight into the relationship of culture and quality. Five of the companies were of a manufacturing orientation while one competed in the health care service arena. For their current quality programs, four of the companies scored above 800 on the quality portion of the questionnaire, while two companies scored between 700 and 800. Their high scores reflect a mature quality program, but may also be explained partly by a non-anonymous response bias. The cultural portion of the questionnaire was modified to ask each quality director to answer questions regarding its present company culture, the culture present prior to quality program implementation, and how the company would like the culture to be ideally. Table 4 shows a summary of the quality scores and the past, current, and desired culture for all companies. The results tend to support the hypotheses favoring a Group culture type, since companies with the highest quality scores tend to currently possess a Group culture. Although the causal nature of the relationship is unclear, our discussions with these firms made it apparent that the process of quality implementation effected a change in their culture. The trend of culture change seems to be one of moving from either of the Hierarchy or Rational culture types, through the Group type, and finally achieving the future ideal in an Adhocracy culture. The goal of achieving an Adhocracy culture agrees with the results from the cross-sectional national survey.

Table 4
Summary of Case Study Results

Company	Quality Score	Culture		
		Prior	Current	Future
1	880	Hierarchy	Group	Adhocracy
2	860	Rational	Group	Adhocracy
3	920	Hierarchy	N/A	Adhocracy
4	840	Group	Group	Group
5	780	Group	Hierarchy	Adhocracy
6	700	Group/ Hierarchy	Hierarchy	Hierarchy
Overall	830	Group/ Hierarchy	Group	Adhocracy

Conclusion

This research examined the relationship between corporate culture and the success of a strategic approach to quality. The results indicate that higher Baldrige scores tend to be associated with the Group and Adhocracy cultural types. For this set of statistical analyses, Adhocracy was generally the culture most strongly linked to the success of a strategic approach to quality. This culture typically scored significantly higher than the Hierarchical and Rational culture types. The Group culture type also followed this pattern, but not to the same degree as Adhocracy.

These findings suggest that one dimension of the Competing Values Model may be more important than other dimensions in determining the success of a strategic approach to quality. Group and Adhocracy cultures, which are both flexibility-oriented, were associated with high Baldrige scores. In the Competing Values Model, flexibility-oriented organizations support decentralization and differentiation, while control-oriented organizations support centralization and integration. This seems to indicate that an organization's preference toward structuring may play an important role in the success of a strategic approach to quality.

From a managerial perspective, this result is not surprising. Most changes introduced by management meet some form of resistance. Once a quality strategy approach has been adopted and introduced into an organization by management, individual compliance with the organizational mandate flows from factors such as trust and long-term commitment to the organization (Zammuto and O'Conner 1992); participation in decision making (Baroudi, Olson, and Ives 1986; Franz and Robey 1986); and incentives. Previous research has shown that flexibility-oriented organizations, such as those with Group or Adhocracy cultures, are positively correlated with a climate of trust, a positive attitude toward the organization, and equity of rewards (Zammuto and Krakower 1991). Therefore, less resistance to a quality strategy approach should be encountered in a flexibility-oriented organization.

It also seems likely that certain cultural dimensions may contribute more to the success of a strategic approach to quality. The four cultural attributes in each of the four culture types are Dominant Attribute, Leadership Style, Bonding, and Strategic Emphasis. The survey analysis showed a larger number of significant relationships in the Dominant Attribute and Bonding cultural categories. For Dominant Attribute, higher Baldrige scores were significantly associated with both the Adhocracy and Group culture types while lower scores were associated with Rational and Hierarchical culture types. The characteristics of Dominant Attribute for the Adhocracy and Group culture types include entrepreneurship, creativity, dynamism, adaptability, cohesiveness, participation, teamwork, and a sense of family. Bonding

for the Adhocracy culture type was associated with higher Baldrige scores. The characteristics of Bonding for the Adhocracy culture type includes flexibility, risk and entrepreneurship. Strategic Emphasis was differentiated somewhat, with the Group culture type associated with higher Baldrige scores. The characteristics of Strategic Emphasis for the Group culture include...human resources, commitment, and morale. The other dimension—Leadership Style—did not appear to be as differentiated for Baldrige scores. Therefore, the culture characteristics that quality strategy decision makers should strive for include entrepreneurship, creativity, dynamism, flexibility, risk, adaptability, cohesiveness, participation, teamwork, a sense of family, toward developing human resources, commitment, and morale.

This finding could explain why an organization whose total cultural score places it within the Rational or Hierarchy quadrants could achieve success with a strategic approach to quality (as with the case study companies and with some Baldrige winners). Since Quinn and Kimberly noted that “. . . no organization is likely to reflect only one [value system]. Instead . . . we would expect to find combinations of values, with some being more dominant than others” (Quinn and Kimberly 1984, 300). This means simply that a given organization could possess values from different quadrants, and thus could not be categorized as residing totally within one quadrant. If a marginally Rational or Hierarchical type organization possessed a Group or Adhocracy orientation toward Dominant Attribute with an Adhocracy orientation toward Bonding, then this may facilitate strategic quality success.

The degree to which strategic quality management success relates in this research to the Adhocracy culture type as opposed to the Group culture type was not expected *a priori*. In a recent article, Harari (1997) shed some light on why certain characteristics of the Adhocracy culture type dominate in organizations that achieve success with a quality strategy implementation. Harari criticizes many managers who employ the principles of “traditional” TQM—becoming preoccupied with internal process improvement at the expense of responsiveness and flexibility. He relates how one manager claimed that after TQM implementation the company now turns out well-made products that customers don’t want. The internal focus of continuous improvement, characterized in a Group culture, has dominated the minds of managers as the chief characteristic of a successful quality strategy, when in fact, an external focus of innovation based on customer desires should dominate. This is also supported by the Choi and Behling (1997) study of top managers and quality program success. Their findings show that top managers with an Adhocratic orientation will lead their companies to long-term

quality program success. These strategic decision makers consider their future customers just as important as their current customers, and guide the company in the direction of future customers through product innovation. Therefore, companies with an Adhocracy emphasis may be said to place product innovation ahead of process improvement, whereas, a Group emphasis may be said to do the opposite. The case study analysis appears to indicate that companies actually move initially toward greater structural flexibility and a focus on

The internal focus of continuous improvement, ...has dominated ...as the chief characteristic of a successful quality strategy, when in fact, an external focus of innovation based on customer desires should dominate.

internal processes, and then toward their customers through an increasingly external focus.

An interesting result is that the Baldrige criteria used in this research should probably favor a Group culture, since one would suppose it reflects “traditional” TQM (which supports Group as the dominant culture type). Prior research would support this notion (Chang and Wiebe 1996). The Adhocracy cultural type, which emphasizes a more external focus characterized by change and risk-taking, could also be the result of a recent focus on reengineering in management circles and the business press.

A caveat of this research is that the Baldrige criteria were significantly redesigned after this study was completed. In 1997, the criteria weights were redistributed to give increased emphasis on market performance and decreased emphasis on how organizations are run (Brown 1997). This could be said to run in favor of an Adhocracy culture type. Unfortunately, the customer focus category, which would lend support to an external focus, was robbed of most of its weight. The base structure of the newer criteria, however, is still very similar to the 1996 version and should not significantly alter the results. In any event, company decision makers are cautioned against attempting a sweeping change toward an Adhocracy or Group cultural orientation. Many aspects of an individual company culture may work well for strategic quality, although not characterized as “Adhocracy” or “Group.” The evidence presented here, however, suggests that the attributes reflected primarily in the Adhocracy culture type, followed by those for the Group culture type, generally provide a more suitable environment for nurturing the success of a strategic approach to quality. ■

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Appendix I Organizational Culture and Quality Assessment

Section I – Culture

(Ref. Quinn, R. E. and G. M. Spreitzer, 1991)

These questions relate to the type of company that your organization is most like. Each of these items contains four descriptions of companies. None of the descriptions is any better than the others; they are just different. Please distribute 100 points among the four descriptions depending on how similar the description is to your organization.

1. Company Characteristics (Please distribute 100 points)

- _____ Company W is a very personal place. It is like an extended family. People seem to share a lot of themselves.
- _____ Company X is a very dynamic and entrepreneurial place. People are willing to stick their necks out and take risks.
- _____ Company Y is a very formalized and structured place. Bureaucratic procedures generally govern what people do.
- _____ Company Z is very production oriented. A major concern is with getting the job done. People aren't very personally involved.

2. Company Leader (Please distribute 100 points)

- _____ The head of company W is generally considered to be a mentor, a sage, or a father or mother figure.
- _____ The head of company X is generally considered to be an entrepreneur, an innovator, or a risk taker.
- _____ The head of company Y is generally considered to be a coordinator, an organizer, or an administrator.
- _____ The head of company Z is generally considered to be a producer, a technician, or a hard-driver.

3. Company "Glue" or Holding Agent (Please distribute 100 points)

- _____ Company W is held together by loyalty and tradition. Commitment to this company runs high.
- _____ Company X is held together by a commitment to innovation and development. There is an emphasis on being first.
- _____ Company Y is held together by formal rules and policies. Maintaining a smooth-running company is important here.
- _____ Company Z is held together by an emphasis on tasks and goal accomplishment. A production orientation is commonly shared.

4. Company Emphases (Please distribute 100 points)

- _____ Company W emphasizes human resources. High cohesion and morale in the company are important.
- _____ Company X emphasizes growth and acquiring new resources. Readiness to meet new challenges is important.
- _____ Company Y emphasizes permanence and stability. Efficient, smooth operations are important.
- _____ Company Z emphasizes competitive actions and achievement. Measurable goals are important.

Section II – Demographics

Circle the most appropriate answer for each question.

1. What industry classification does your company best fit into?

- | | |
|------------------|----------------------------------|
| a. Manufacturing | d. Finance/Insurance/Real Estate |
| b. Construction | e. Transportation |
| c. Services | f. Other. Specify: |

2. How many employees does your company have?

- | | |
|----------------|--------------|
| a. 0 - 99 | b. 100 - 999 |
| c. 1000 - 9999 | d. 10000 + |

3. If applicable, how many years has your TQM program been in place?

- | | |
|------------|------------|
| a. 0 - 1.9 | b. 2 - 4.9 |
| c. 5 - 9.9 | d. 10+ |

Section III – Quality

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Please answer all questions. For each question, indicate which answer best describes your organization (company or division). Scoring: 1 = minimum effort, 5 = world class effort.

LEADERSHIP (90)

1. Which statement best describes your organization's formal statement on quality?

1. No formal statement.
2. Formal statement is focused on traditional characteristics, such as finest quality, zero mistakes, best value, etc.
3. Formal quality statement is in the mission statement, as well as departmental handbooks, brochures, etc.
4. Formal quality statement exists and all employees know what it means to their department and the organization.
5. Formal quality statement relates to world-class quality results and continuous improvement in processes and systems.

2. How has the quality policy and/or mission been deployed or spread throughout the organization?

1. Mainly "talk" about quality.
2. Have a quality manual.
3. Quality manual and/or policy statements about quality are distributed to the entire organization.
4. Workshops and/or seminars are routinely conducted on quality procedures and policy.
5. Quality policy is deployed to engender clear direction, commitment of people, and integration of separate activities.

3. How does management demonstrate leadership, personal involvement, and visibility through communication (speeches, & publications) of quality inside and outside the organization to the community, region, state, and national organizations?

1. Traditional management role of directing, controlling, and dictating what quality is and should be.
2. Management is visible in quality issues internally.
3. Management is visible in external quality issues as a means to demonstrate commitment.
4. Supports participative management within the entire organization and implements suggestions from continuous quality improvement groups. Is a cheerleader inside the organization and monitors group progress and improvement.
5. Recognized as a leader outside the organization for instituting quality.

INFORMATION AND ANALYSIS (75)

4. To what extent does the organization have internal process data to illustrate quality trends by function and/or process?

1. No data, or just standard accounting data.
2. Standard inspection and re-work data.
3. Use of statistical methods to monitor critical processes and systems.
4. Cost of quality (COQ) analysis data available for all to examine.
5. All functions and departments/units collect and analyze statistical data and use a Total Quality Improvement (TQI) process to improve quality.

5. To what extent does the organization use data to compare its functions and/or processes to those of competitors or other industries?

1. No data, or just standard accounting data.
 2. Passive data collection in some units, but process improvements are based mostly on the subjective opinions of a few people.
 3. Passive data collection in most units with process improvements
-

Appendix I
Organizational Culture and Quality Assessment
(continued)

originating from data analysis.

4. Formal process benchmarking program is in place that uses data to compare all company processes to competitors for process improvement purposes.
5. Formal process benchmarking program is in place that uses data to compare all company processes to "best in class," whether competitors or not.

STRATEGIC QUALITY PLANNING (55)

6. What are the organization's principal quality goals, objectives, and plans for the next one to five years?

1. Standard management by objective, which keys on financial results or top management's goals.
2. Numerical objectives related to quality, cost effectiveness, and satisfaction.
3. Management by policy deployment (MPD - a top-down conversion of company strategy to objectives at all levels).
4. MPD where all employees have quality work plan assignments related to the organization's mission.
5. The organization's objectives key on achieving world-class capabilities in quality related performance.

7. How does your organization plan for innovation?

1. Hope it occurs.
2. Numerical objectives given to the R&D department.
3. Innovation is recognized by all employees and encouraged.
4. Innovation is a deployed policy where all employees are challenged to constantly come forth with new ideas.
5. Innovation is part of the organizational culture.

HUMAN RESOURCE DEVELOPMENT AND MANAGEMENT (140)

8. What are the organization's key strategies for increasing employee effectiveness, productivity, and participation?

1. No organizational strategy.
2. Strategy is dependent on management's direction and efforts.
3. Participative management, which involves working on processes and systems.
4. Participative management, which empowers employees to make on-the-spot decisions.
5. Management is supportive of empowered employees' efforts. Morale is high. The sentiment is, "it's an enjoyable place to work."

9. How does the organization educate employees in TQI processes?

1. No employee education.
2. Employees educated on relevant job skills.
3. Employees educated on principles of quality.
4. Employees educated on principles of quality, including aspects of TQI using statistical methods.
5. The keystone to training is the continuous improvement of all personnel.

10. How does the organization positively reinforce employees contributions to quality improvement?

1. The rewards are either strictly monetary and arbitrarily disbursed, such as merit pay, or there is no formal program.
2. Typical performance review system which focuses on individual efforts.
3. Commendations and other non-monetary rewards that are dispensed by the judgement of management.
4. Commendations and other non-monetary rewards that are dispensed by the judgement of management, but with the input of at least two or more evaluators.
5. Team recognition and incentives for efforts based on improved processes/systems. Manager role is to support team efforts.

11. What has the organization done to ensure the quality of work life, maintain a supportive work environment, and empower all employees to actively participate?

1. The organization has a "do your job and leave your brains at home" environment.
2. Suggestion boxes available where suggestions are reviewed and discussed.
3. Participative management between management and support personnel.
4. Participative management with all employees involved.
5. Upside-down pyramid where managers lead and support personnel performing value-added work.

PROCESS MANAGEMENT (140)

12. How does your organization define "waste" and what preventive measures is it taking to reduce "waste"?

1. No formal effort concerning "waste."
2. "Waste" is determined only by inspection and is seen as "scrap" because the customer isn't satisfied or the job must be redone.
3. "Waste" includes measurable external failure costs in addition to internal scraps and rework.
4. A process orientation regarding "waste" (e.g. time, steps, complexity) which considers both internal and external costs.
5. "Waste" is recognized as a result of poor processes and systems, and includes all aspects of the process. Ongoing efforts utilizing group teams and cross-functional teams are employed routinely to reduce "waste."

13. How does your organization seek to improve the quality emphasis of those supplying goods and services?

1. Purchasing is by contract specifications and goes to the lowest bidder.
2. Processes and systems track purchased items and data related to on-time delivery.
3. Suppliers are required to show quality control capabilities, otherwise stringent specifications are written and adhered to by various units/departments.
4. The organization has identified that suppliers have process-oriented quality improvement capabilities.
5. The organization has active supplier partnerships with combined training to set and improve quality, price, and delivery.

14. How does your organization evaluate the quality of services and products provided by external sources?

1. No formal tracking program.
2. Reject tracking only: that is, inspection upon delivery of goods.
3. Annual evaluation of suppliers' quality systems.
4. Active advisory committees between major suppliers and the organization.
5. Partnership and total performance teams in areas of quality, cost, and delivery. Suppliers are expected to improve continuously.

15. How does your organization evaluate the quality of services and products provided by people and departments inside your organization?

1. No organizational program available.
 2. The organization has a committee working on establishing a program.
 3. Each unit/department tracks its own quality indicators.
 4. The organization has a culture that recognizes internal customer-supplier relationships.
 5. The organization has a TQI approach where upper management audits performance of processes and systems supporting the organization's mission.
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Appendix I
Organizational Culture and Quality Assessment
(continued)

BUSINESS RESULTS (250)

- 16. What type of data is available which shows improvement in your programs, services, and/or products?**
1. Either no reliable data is available or just standard accounting data. Graphs are generated only for special applications.
 2. Traditional quality indicator information is used. Information is supplied by either internal or external customers.
 3. Traditional information is evaluated graphically on a regular basis in units/departments and is understood by everyone.
 4. Field intelligence data is gathered by the unit/department and is evaluated in graphical form.
 5. Information related to strategic quality objectives is regularly used and posted in graphical form throughout the organization.
- 17. What type(s) of continuous improvement project(s) have led to the results in the previous question?**
1. The organization has no project teams or no measurable results available.
 2. Project teams or committees are put together quickly to examine the special cause effects.
 3. Management appoints standard committees to address such general issues that often require attention.
 4. Management appoints mandatory project teams to study areas needing improvement. Management almost always implements the team's recommendations.
 5. Management appoints mandatory project teams to study issues related to quality and value-added work that have measurable results. The main work is done by front-line personnel. (It is common for such places to have quality stories.)
- 18. How does your organization compare its products and services to those of other companies within or outside its service area?**
1. The organization has no comparable data available for such comparisons.
 2. Standard accounting information is used, such as profits, return on assets, etc.
 3. The organization passively collects and analyzes product and service data from outside sources.
 4. Formal "benchmarking" of competitors' products and services is performed.
 5. The organization has an active program to obtain comparative "benchmarking" data on all products and services from the "best in class," whether competitors or not.
- 19. Which best describes the organization's innovation results, such as the improvements seen in your products and/or services?**
1. The organization has no comparable data available.
 2. Standard accounting information such as profits, return on assets, as a result of the innovative product/service.
 3. Passive data collection and analysis of data from outside sources, such as customer surveys.
 4. Innovation is rewarded regardless of immediate results.
 5. Innovation is part of the organizational culture and is encouraged for long-term survival.
- 20. What percentage of the current employees have ever received education in TQI concepts?**
1. 0 percent.
 2. Less than 25 percent.
 3. 25 to 60 percent.
 4. 61 to 90 percent.
 5. 91 to 100 percent.

CUSTOMER FOCUS/SATISFACTION (250)

- 21. How does your organization determine who external customers are and their satisfaction level?**
1. The organization has no formal collection systems to measure external customer satisfaction. All information is hearsay, such as sales are doing OK so we must be OK.
 2. A complaint follow-up process is in place.
 3. A formal complaint handling system provides feedback to appropriate areas. Complaints are treated as "special causes".
 4. A TQI process is used with information gathered from customer satisfaction surveys. The processes monitor key indicators of customer satisfaction.
 5. A comprehensive data collection system that leads to Quality Function Deployment for services and products.
- 22. How do you determine who your internal customers are and their satisfaction levels?**
1. No formal program exists at the organization.
 2. Communication of satisfaction is channeled mainly through the management hierarchy.
 3. Cross functional teams routinely determine satisfaction through surveys.
 4. Cross functional teams routinely determine satisfaction through surveys. Then a TQI process, such as the Plan-Do-Check-Act cycle, is used to improve the internal customer-supplier relationships.
 5. All functions are engaged in TQI processes for internal customer satisfaction. Team communications are horizontal.
- 23. In what areas, processes, or systems does your organization have defined, measurable service and/or product criteria?**
1. None.
 2. Management measures certain services or products.
 3. Management measures at least 50 percent of the services or products.
 4. Management and employees measure at least 50 percent of the products or services.
 5. The organization has a total quality system oriented toward data gathering.
- 24. What methods does the organization use to determine customer satisfaction?**
1. No analysis is done.
 2. Some tracking of passively gathered data.
 3. Regular tracking of passively gathered data.
 4. Active accumulation and analysis of customer satisfaction data.
 5. The entire organization is actively involved with all internal and external customer satisfaction measures. Persons who perform the service talk to customers for information gathering.
- 25. What does your organization do that significantly promotes continuous improvement in customer satisfaction?**
1. Nothing.
 2. Quality successes are recognized with awards, certification, etc.
 3. In addition to recognition awards, top management personally recognizes the employee/unit.
 4. The organization has undergone TQI and TQM training and has shown improvement.
 5. The organization has become actively involved in the Quality Movement locally and nationally. The organization has published papers and/or made speeches about the quality of their processes and systems.
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Use of Short-run Statistical Process Control Techniques: A Comparison of U.S. and Japanese Manufacturing

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Abstract

The purpose of this paper is to compare the implementation of short-run (i.e., small lot-size) statistical process control (SPC) techniques for manufacturing between the U.S. and Japan. Using U.S. and Japanese questionnaires, this research focuses on the use of several manufacturing management elements such as setup time, stability of process, and quality improvement. These elements are compared in terms of their respective countries' short-run SPC techniques implementation. Barriers to the implementation of short-run SPC techniques are also examined. In addition, this research identifies current process control techniques used to support short-run SPC in both countries. Results show how the significantly different short-run SPC techniques are utilized in the U.S. and Japan.

Introduction

Many firms have decided to use smaller production runs or short-runs in their mixed-model production processes to provide greater flexibility in meeting customer demand, improve quality, and reduce unnecessary waste in their production systems (Porteus 1986). Unfortunately, the volatility in lot size and variety of products produced caused by a change to short-runs and mixed-model methods can necessitate other production processes to change. One case in point is the Shewhart Statistical Process Control (SPC) system. Traditionally, Shewhart's SPC techniques are applied in high-volume and repetitive manufacturing systems. The Shewhart SPC methodology is directed at signaling special causes of variation generated during a production run. Such signals are detected using control limits constructed on the basis of within-subgroup variability, measured after the process has been set up, adjusted, and brought into statistical control. In other words, "the process" to be monitored is that which exists after setup and adjustment. However, in a short-run production that is characterized by frequent setups of small production runs, SPC must be applied differently. SPC must incorporate a broader definition of the process, which recognizes ongoing volatility in the sequences of setups and production runs.

Short-run SPC approaches are becoming increasingly more

...the volatility in lot size and variety of products produced ...can necessitate other production processes to change.

popular. Currently there is even a Web library providing information on the subject [see www.mlib.w1.com/mlibr.htm]. For the purposes of this paper, we will use a Pyzdek (1993) type definition of short-run SPC approaches where the use of SPC methodologies are applied in small lot sizes of one or more, but less than is necessary for mathematical justification of some or all of the underlying assumptions of SPC models (e.g., normality). This includes any SPC methodology that is adapted for short-run sample sizes and any unique statistical methodology that used to correct for small sample lots.

Since the origin of short-run SPC seems to be equally shared by U.S. and Japan (Pyzdek 1993), we feel a comparison of methods between these two countries might reveal some fundamental differences in their use. Therefore, the purpose of this research is to determine the overall usage and improvement of short-run SPC approaches in U.S. firms and compare their implementation with Japanese manufacturers to identify any significant difference in the way manufacturing management methods are implemented between firms in these two countries. Specifically, this paper has four objectives:

1. Provide a comparative analysis of short-run SPC techniques implemented in manufacturing between the U.S. and Japan.
2. Identify current process control techniques and job responsibilities of workers in manufacturing of both countries.
3. Provide a comparative analysis of perceived improvement in manufacturing management techniques between the two countries and between short-

run SPC and non-short-run SPC firms (i.e., firms that do not use short-run SPC methodologies).

4. Provide a comparative analysis of possible implementation problems or barriers in manufacturing management techniques between the two countries, and between short-run SPC and non-short-run SPC firms.

Literature Review

The purpose of this literature Review is to explore the existing solutions used to deal with the problems found in implementing short-run SPC methods. In dealing with the volatility difficulties researchers have focused upon techniques to develop control chart limits with very little data (Kruell 1988). Quesenberry (1991a, 1991b) suggested the use of target specifications for process parameters to construct the control charts. Actual process parameters for computing control limits are generally not available prior to the start of a production run in short-run manufacturing. The Quesenberry approach assumes that the control chart should be concerned with special causes during each production run, whether or not prior information for estimating the parameters are available. Crowder (1992) further emphasized that the solution to the control problem in short-runs should be consistent with traditional statistical process control philosophies in which process adjustments are called for only when the process mean is substantially off target. These approaches assume that the control charts must be concerned with detecting process variations, which occur during an initial characterization of the process subsequent to setup and adjustment, not those of variations observed between the short-runs. Attempting to establish new control limits for each short-run production lot ignores the primary source of variation: set-up related variation between the short-run production runs. For example, if different control limits must be established each time the process is set up to run a different model, then it also indicates that the capability of the process to produce a particular product varies from setup to setup. While each individual control chart may indicate a state of control within each given run, the process itself has no definable capability which can be relied on from setup to setup. The short-run manufacturing cannot afford to have process capability as an uncertain state. It must improve setup capability to the point that process control and capabilities are ensured with each initial setup.

Bothe (1988, 1989), Burr (1989), Cook (1989) and Thompson (1989) presented solutions to deal with this difficulty. They combined the data across individual production runs onto a single control chart in order to treat the data in a similar manner to that which would be employed under traditional Shewhart SPC techniques. This approach permits the observation of the impact of variability from both the process and part number

point of view, whereas traditional control charts only show the variability for one part number at a time.

Attempting to establish new control limits for each short-run production lot ignores the primary source of variation: set-up related variation between the short-run production runs.

These approaches have important advantages, especially when applied to the charting “process” rather than “product” characteristics. As noted by Pyzdek (1993), this is an approach that should be used whether the production runs are long or short. When implementing this method, some form of suitable data transformation is necessary in order to generate a “meaningful” control chart. Although all parts have different specification limits, their transformed variation from specification limits enables the detection of process variability. Therefore, all part numbers can be plotted on one SPC control chart, allowing management to continuously monitor process behavior over all part changeovers. These charts are referred to as *nominal charts*, and can include the *target chart* (Bothe 1989), *difference chart* (Wheeler 1991), and *code value method or chart* (Pyzdek 1993). An extensive list of possible data transformations is given by Al-Salti and Stanham (1992, 1993).

Although the above literature review identifies several short-run SPC techniques designed to overcome primary difficulties in the short-run, these approaches still emphasize the importance of bringing the process into control within each production run. The most critical problem while implementing short-runs lies in performing quick and accurate setups between runs. Therefore, it becomes critical to reduce setup variability between runs and the process control effort must switch from process variation within runs to process variations between runs. Robertson (1989) suggested the target X-bar and R charts would be useful to monitor the quality of setup and to test for control into the future processes. Koons and Luner (1991) developed process control charts, which allow the detection of setup errors but did not provide any means for applying the process control principle to improve the capability of setup process.

Some of the complexities and difficulties observed in the U.S. appear to also be present in Japanese manufacturing. Based on research by Kim and Takeda (1996), manufacturing firms in Japan are still utilizing the traditional SPC systems, although some of them are implementing short-run SPC techniques. This research also shows that statistically significant differences exist between the short-run firms and the non-short-run firms in the areas of process control.

As the literature review suggests, the short-run SPC methodologies are used and implemented uniquely to the organization and its environment (Robertson 1989). Indeed, there is widespread disagreement in the U.S. and Japan as to what form SPC should take when implemented in the short-run manufacturing environment (Benson 1986; Thompson 1989; Mehra and Inman 1992; Kim and Takeda 1996). These observed differences in use and implementation of JIT and SPC implementation strategies currently used in the manufacturing between the U.S. and Japan are the focus of this study.

Research Methodology

The research design for this study consists of a questionnaire of manufacturing companies operating in the U.S. and Japan. Firms that make up the population for this research study represent steel products, machinery, electrical and electronic component, automobile, and precision parts industries. Since this research specifically examines the knowledge of statistical process control techniques of the respondents, the names and addresses of these manufacturing companies were selected randomly from databases of professional organizations in Japan and U.S. The organizations representing the sample from Japan were drawn randomly from the databases of the Japanese Standard Association and the Japan Industrial Management Association. The organizations representing the sample from the U.S. were randomly drawn from a database of the American Society for Quality Control. Once the firms were determined, the names or titles of specific managers responsible for implementing quality programs were identified as the target audience for the questionnaire. The questionnaire contained questions to confirm that managers participating in the survey were experienced and currently responsible for implementing SPC program activities.

An original questionnaire was designed to collect the data needed to examine performance measurement variables within the context of quality management. To aid in respondent consistency a listing of terms (e.g., Short-run SPC, Cross-Function, Reengineering, etc.) and definitions were included with the questionnaire. This questionnaire was pre-tested and edited by a series of focus groups of volunteer U.S. managers directly responsible for implementing SPC within their respective firms in the U.S. Their suggestions were incorporated and the questionnaire was revised before conducting the next round of focus group interviews. All suggested clarifications, revisions, or deletions were reviewed and a final format was established through repeated rounds with the focus groups.

In order to ensure proper communication with the Japanese respondents, the English version of the questionnaire was translated into Japanese by one expert and then translated back to English by a second expert to see if the Japanese version

represented the same meaning as the English version. This independent, double translation procedure was necessary to avoid the misunderstandings that may stem from the terminology differences in quality management and the cultural differences between Japanese and U.S. managers. Also, researchers asked several managers directly responsible for implementing SPC within their respective firms in Japan to review the questions and to identify, based on their culture and experiences, those questions about which they did not want to disclose information. Most of them indicated that they preferred not to disclose information which might degrade their company's image. This included questions regarding top management's commitment level, communication level among top management and employees, sales figures, profits and so on. Not surprisingly, they also preferred a simple and short questionnaire.

In order to ensure a maximum return rate, the length of questionnaire mailed to both countries was set at three pages during the revision process. The English version of the relevant questionnaire questions is presented in Appendix I. (Other questions not relevant to this study were excluded.) Questions were included to verify the degree of current process control technique implementation as well as the usage of short-run SPC techniques. The respondents were also asked to check the degree of improvement of each survey element, ranging from 1 as "Not improved at all" to 5 as "Extremely improved."

Questionnaires and accompanying cover letters were mailed to 137 different firms in Japan and to 500 different firms in the U.S. The total number of questionnaires sent to both countries were based on expected response rates from prior studies reported in the literature and research funding considerations. The study also sought a sample that would reflect different types of manufacturing firms with large ranges in size and differing classes of products manufactured to lend credibility to the generalizability of the study's conclusions.

A total of 139 usable questionnaires were returned by early 1998, where eighty-one were from Japanese organizations and fifty-eight were from the U.S. organizations. Some questionnaires were returned (i.e., three in Japan and thirty-five in the U.S.) as undeliverable for various reasons. The resulting response rate of 59.12 percent from Japan exceeded prior expectation levels, whereas an 11.6 percent response rate from U.S. respondents was lower than average, considering the usual response rate for this type of empirical research.

To investigate possible non-response bias causing the lower U.S. response rate a follow-up phone call to a sample of non-respondents was undertaken. A total of twenty-five or 5.6 percent of the non-respondents were randomly selected and eventually contacted with a follow-up phone call to determine why they did not respond. Results of the very frank phone calls revealed that the chief non-response reasons included company

policies against unsolicited participation and scarcity of time for such a nonproductive effort.

Analysis of Data

The descriptive results show the majority of the respondents come from continuous flow industries such as steel and metal products (i.e., 26% in Japan and 19% in the U.S.), consumer electronics (i.e., 23% in Japan and 19% in the U.S.), automobile industry (i.e., 16% in Japan and 12% in the U.S.), and the precision parts industry (i.e., 5% in Japan and 4% in the U.S.). Other types of industries reported (i.e., 30% in Japan and 46% in the U.S.) consisted of computer, tooling, pharmaceutical, food, and job shops. Approximately 54 percent of the Japanese organizations and 16 percent of the U.S. organizations reported operations of more than 500 employees.

Short-run SPC implementation

The initial step for the analysis of short-run SPC implementation in the two countries involves a frequency analysis of the current status of the traditional Shewhart SPC systems and the degree of the respondents' use of short-run SPC techniques. Of the total of 139 firms responding to the survey, thirty-one firms considered themselves as users of short-run SPC programs and 108 firms considered themselves as non-users of short-run SPC programs.

To examine the respondents' use of short-run SPC techniques, a commonly referenced set of Total Quality Management (TQM) terminology was used in the evaluation (Ryan 1989; Sarazen 1990; Shainin 1990; Evans and Lindsay 1996). In Table 1 the short-run percentage responses by country are presented for each respective sample size. As can be seen in Table 1, most of the Japanese respondents used "Restructuring,"

Table 1
Usage percentages of TQM methodologies*

	Country		SPC Use	
	Japan	U.S.	Short-run	Non-short
Reengineering	92.59	32.76	67.74	67.59
Downsizing	74.07	46.55	64.52	62.04
Restructuring	100.00	39.66	70.97	75.93
Benchmarking	45.68	34.48	48.39	38.89
Empowerment	1.23	53.45	35.48	19.44
Out-Sourcing	N/A	41.38	48.36	38.88
Cross-Function	N/A	50.00	64.51	43.51
Sample Size	81.00	58.00	31.00	108.00

* Percentages in each column represent the proportion of respondents of each respective sample size (i.e., bottom row of table).

"Reengineering," and "Downsizing." The percentage of use decreased for terms such as "Benchmarking." Very few of the Japanese respondents used the "Empowerment," and the sole respondent came from an automobile manufacturing company in Japan with operations in the U.S. Unlike Japanese respondents, approximately 30 percent to 50 percent of U.S. respondents used most of the TQM methods.

The current status of Shewhart's traditional SPC system was next examined. From the results summarized in Table 2, only 11.11 percent of Japanese respondents did not utilize the traditional SPC system. Those who did use it in 20.99 percent for most processes and 64.2 percent for some processes. The results also show that 36.21 percent of the U.S. respondents do not utilize the traditional SPC system. Those who did use it in only 12.07 percent for most processes and 36.21 percent for some processes. On a percentage basis in our study, this result shows that Japanese manufacturing firms are utilizing the traditional SPC more than U.S. firms.

Table 2
Shewhart's SPC implementation*

	Country		SPC Use	
	Japan	U.S.	Short-run	Non-short
No Shewhart's SPC	11.11	36.21	6.45	25.93
Being Developed	3.70	12.07	9.68	6.48
Yes-Some area	64.20	36.21	54.84	51.85
Yes-Most area	20.99	12.07	25.81	14.81
Know Short-run?	76.54	79.31	100.00	84.26
Sample Size	81.00	58.00	31.00	108.00

* Percentages in each column represent the proportion of respondents of each respective sample size (i.e., bottom row of table).

Table 3
Short-run SPC implementation*

	Country		SPC Use	
	Japan	U.S.	Short-run	Non-short
No Short-run	85.19	67.24	N/A	100.00
Being Developed	6.17	8.62	32.26	N/A
Yes-Some area	7.41	20.69	58.06	N/A
Yes-Most area	1.23	3.45	9.68	N/A
Sample Size	81.00	58.00	31.00	108.00

* Percentages in each column represent the proportion of respondents of each respective sample size (i.e., bottom row of table).

Table 3 presents results of the current status of short-run SPC implementation in Japan. As can be seen, 85.19 percent of the respondents do not utilize short-run SPC techniques. Among those respondents who are interested in short-run SPC, Table 4 shows that only four firms (4.94%) are utilizing nominal X-bar chart or R chart, one firm (1.23%) indicated that they are using the target chart and two firms stated they are using the difference chart. These findings tend to indicate in our study that Japanese manufacturing firms have a fairly low level of short-run SPC implementation.

Also, a cross tabulation (not shown in the tables) of the short-run and non-short-run categories with Japanese and U.S. categories revealed that the Japanese and U.S. managers were almost perfectly, inversely related. That is, 63 percent of the Japanese did not implement short-run SPC methods (and 37% did) and 62 percent of the U.S. managers did (and 38% did not). These findings indicate that U.S. firms are implementing short-run SPC techniques more than in Japan, and they confirm observations of prior research of short-run SPC (Kim and Takeda 1996).

The other criterion selected for assessing implementation was the level of education in each respondent's firm. This respondent descriptive information was obtained to determine if the differences in education levels might be a factor in implementation results. Approximately 70 percent to 80 percent of the respondents in both countries reported that less than 30 percent of their employees hold baccalaureate degrees in their plant. Based on this result in our study, it was concluded that education level is not an important factor for the implementation of short-run SPC systems. As a result of the similarity in the sampling, the variable was judged as inconsequential and is not considered further in the study.

Current process control techniques

The second research objective was to examine current process control techniques used as short-run SPC techniques. Table 5 lists eight different process control techniques. Among those techniques, more than 90 percent of the Japanese respondents

Table 4
Types of short-run SPC*

	Country		SPC Use	
	Japan	U.S.	Short-run	Non-short
	Nominal	4.94	22.41	54.84
Target	1.23	18.97	38.71	N/A
Difference	2.47	3.45	12.90	N/A
Code Value	N/A	8.62	12.90	N/A
Sample Size	81.00	58.00	31.00	108.00

* Percentages in each column represent the proportion of respondents of each respective sample size (i.e., bottom row of table).

Table 5
Process control techniques*

	Country		SPC Use	
	Japan	U.S.	Short-run	Non-short
	Fail-Safe	45.68	13.79	22.58
Pokayoke	65.43	18.97	51.61	43.51
Jidoka	46.91	1.72	29.03	26.85
Andon Lights	46.91	6.90	35.48	27.77
Standardization	93.82	56.90	70.97	80.55
Pareto	91.35	75.86	93.55	82.40
Fishbone	90.12	62.07	93.55	74.07
Check Sheet	92.59	70.69	77.42	85.18
Sample Size	81.00	58.00	31.00	108.00

* Percentages in each column represent the proportion of respondents of each respective sample size (i.e., bottom row of table).

indicated that they use "Standardization," "Check Sheet" (Juran 1990), "Pareto Chart," and "Fishbone Chart" in their process control activities. U.S. respondents also indicated that they use these four techniques the most, though their implementation rates (about 50 to 70%) were much lower than Japanese firms. Table 5 also shows that non-short-run SPC firms use these process control techniques as much as short-run SPC firms do. The opened-end portion of the survey questions revealed that other process control techniques are being used, including Failure Mode & Effects Analysis (FMEA), Failure Mode Effects & Criticality Analysis (FMECA), Fault Tree Analysis (FTA), Defect Ratio / Adjust Ratio (DR/AR), Touch Chart, and Point of Production (POP).

Job responsibilities of workers

As another dimension of examining process control techniques, this research sought to determine what related responsibilities workers are assigned in a short-run SPC environment. In Table 6 the results are presented for a select group of major job responsibilities reported by managers. When classified in terms of country, about 70 percent of the respondents in both countries are assigned responsibilities that include "Daily Maintenance," "Process Inspection," and "Finished Inspection." Yet there was significant difference between the U.S. and Japanese managers on the "Four Ss" (i.e., Seiri, Seidon, Seiketsu, Seiso), where these Japanese concepts originated.

Although these findings support the observations of Schonberger (1982, 1986), Wantuck (1989) and others who believe in the necessity of multi-function workers in short-run SPC environments, this research also shows that non-short-run SPC firms are also assigning quality management and SPC-related responsibilities to workers. This research shows that multi-function assignments have

Table 6
Related quality management and short-run SPC workers' responsibilities*

	Country		SPC Use	
	Japan	U.S.	Short-run	Non-short
Daily Maintenance	97.53	75.86	74.19	92.59
Process Inspection	88.89	68.97	90.32	77.78
Analysis of Defects	54.32	36.21	58.06	42.59
Corrective Action	59.25	50.00	58.06	54.62
Process Monitoring	35.80	68.97	74.19	43.51
Incoming Inspection	59.25	39.66	45.16	52.77
Finished Inspection	74.07	68.97	83.87	68.51
Four S	100.00	5.17	45.16	64.81
Sample Size	81.00	58.00	31.00	108.00

* Percentages in each column represent the proportion of respondents of each respective sample size (i.e., bottom row of table).

become workers' responsibilities in the manufacturing firms in both countries regardless of the short-run SPC implementation strategy.

Hypotheses tests for differences in manufacturing management

The third research objective of this study is to determine if there are any significant differences in manufacturing management between the use of short-run SPC in Japan and the U.S. To examine these issues, ten major elements of manufacturing management in short-run SPC programs (i.e., lot size reduction, setup time reduction, inventory reduction, stability of process, quality improvement, understanding of SPC, quality of supplier, process of supplier and productivity) are used as variables to test the following hypotheses:

H1: There is no significant difference in perceived improvement of the studied criteria as a result of the implementation of current process control techniques between firms in Japan and the U.S..

H2: There is no significant difference in perceived improvement of the studied criteria as a result of the implementation of current process control techniques between short-run SPC users and non-short-run SPC users.

The data for the statistical comparisons were obtained from the survey responses on the "1" to "5" scale described earlier. To test the hypotheses, the *t*-test and Mann-Whitney test were both used. While the sample size of the respondents was judged sufficient for purposes of the *t*-tests, some additional statistical justification was warranted.

It was felt that when data were gathered from populations whose distributions are unknown or can only be assumed, like this research, a nonparametric test like the Mann-Whitney can be useful to support the findings of the more statistically powerful *t*-test, which requires an assumed normal distribution.

In Table 7 the results of tests for Japanese and the U.S. firms regarding the first hypothesis are presented. In each of the ten elements being compared, the U.S. mean scaled values were less than those of the Japanese firms. This would descriptively indicate that U.S. managers view the implementation of all ten manufacturing and control elements as less improved than Japanese managers. The resulting *p* values of *t*-tests and Mann-Whitney tests are significant at less than 0.05 for seven elements out of the total ten elements, indicating that statistically significant differences exist in their level of success in manufacturing management. These findings support the rejection of H1 and in our study lead to the conclusion that in most of the elements measured, there is more perceived improvement in manufacturing planning control in Japan than in the U.S.

In the statistical tests in Table 8 the survey responses were reclassified in terms of short-run SPC techniques implementation. In all ten elements, the firms that did not use short-run SPC methods scored less improved criterion than those firms that identified themselves as short-run SPC users. The resulting *p* values of *t*-tests are less than 0.05 for six elements out of the total ten elements, indicating that statistically significant differences exist in process control between the short-run SPC system and the traditional SPC system approaches. The Mann-Whitney tests supported the same test results. At least for the six elements, these findings support the rejection of the H2 hypothesis and in our study leads to the conclusion that those firms that use short-run SPC techniques perceive an improved implementation of manufacturing management elements. They also support the observations of Al-Salti

Table 7
Manufacturing management elements by country*

Elements	Japan	U.S.	<i>t</i> test- <i>p</i>	MW- <i>p</i>	Result	Decision
Lot size reduction	3.08	2.74	0.2000	0.2112	$\mu = \mu$	Accept
Setup time reduction	3.26	2.69	0.0230	0.0261	$\mu \neq \mu$	Reject
Inventory reduction	3.35	2.96	0.1300	0.1425	$\mu = \mu$	Accept
Stability of process	3.59	3.12	0.0190	0.0284	$\mu \neq \mu$	Reject
Process capability	3.55	3.10	0.0290	0.0432	$\mu \neq \mu$	Reject
Quality improvement	3.76	3.35	0.0350	0.0658	$\mu \neq \mu$	Reject
Understanding of SPC	3.19	2.56	0.0028	0.0020	$\mu \neq \mu$	Reject
Quality of supplier	3.33	2.98	0.1300	0.1460	$\mu = \mu$	Accept
Process of supplier	3.15	2.69	0.0400	0.0489	$\mu \neq \mu$	Reject
Productivity	3.59	3.02	0.0055	0.0077	$\mu \neq \mu$	Reject

* Bold values are statistically significant with a $p < 0.05$.

and Staham (1993) and Evans and Lindsay (1996) who believe in the effectiveness of the short-run SPC system in differing manufacturing environments.

Hypothesis tests for implementation barriers

Another objective of this study was to compare possible implementation barriers for firms when they try to implement short-run SPC systems or techniques. The elements chosen as possible implementation barrier variables are human resource resistance to new short-run SPC techniques, support provided by the manufacturing department, support provided by the engineering department, and the availability of training or education in the use of new techniques. This study assumes that a low rating of these four elements would constitute a barrier to the successful implementation of a short-run SPC program. To make the implementation barrier comparison, the four elements were used as variables to test the following hypotheses:

H3: There is no perceivable significant difference in possible implementation barriers in Japanese and U.S. firms.

H4: There is no perceivable significant difference in possible implementation barriers in short-run SPC and non-short-run SPC users.

In Table 9 it can be seen that the ratings of the four element implementation barriers for Japanese respondents are much less than those of U.S. respondents. The resulting *p* values of the *t*-test and Mann-Whitney tests are less than 0.05 for all four elements. This supports the rejection of the H3 hypothesis and leads to the conclusion that perceived implementation differences exist between Japanese and U.S. firms. In particular, in our study this supports a conclusion that Japanese managers face significantly greater barriers to implementation than their U.S. counter parts.

Based on the results in Table 10, where the respondents are classified as users or non users

of short-run SPC techniques, only one (i.e., “Resistance of SPC Techniques”) out of four elements had resulting *p* values for both the *t*-test and Mann-Whitney test of less than 0.05. This result supports the acceptance of the H4 hypothesis and leads in our study to the conclusion that with the exception of resistance to SPC techniques, the barriers to implementation are not statistically significant between the short-run SPC firms and non-short-run SPC firms.

Summary and Conclusions

This study researched commonalties and differences in manufacturing management elements between Japanese and U.S. firms and between firms using short-run SPC systems and non-short-run SPC users. The survey

Table 8
Manufacturing management elements by short-run use*

Elements	Non-Short	Short-run	<i>t test-p</i>	<i>MW-p</i>	Result	Decision
Lot size reduction	2.86	3.120	0.3800	0.3937	$\mu = \mu$	Accept
Setup time reduction	2.92	3.220	0.2800	0.3003	$\mu = \mu$	Accept
Inventory reduction	3.09	3.380	0.3300	0.3358	$\mu = \mu$	Accept
Stability of process	3.21	4.033	0.0003	0.0003	$\mu \neq \mu$	Reject
Process capability	3.15	4.067	0.0001	0.0001	$\mu \neq \mu$	Reject
Quality improvement	3.42	4.133	0.0015	0.0020	$\mu \neq \mu$	Reject
Understanding of SPC	2.75	3.433	0.0044	0.0047	$\mu \neq \mu$	Reject
Quality of supplier	3.02	3.620	0.0240	0.0192	$\mu \neq \mu$	Reject
Process of supplier	2.80	3.340	0.0300	0.0237	$\mu \neq \mu$	Reject
Productivity	3.24	3.643	0.1000	0.1123	$\mu = \mu$	Accept

* Bold values are statistically significant with a $p < 0.05$.

Table 9
Implementation barrier elements by country*

Elements	Japan	U.S.	<i>t test-p</i>	<i>MW-p</i>	Result	Decision
Resistance of technology	2.880	3.52	0.0068	0.0038	$\mu \neq \mu$	Reject
Mfg. Dept. support	2.913	3.83	0.0000	0.0000	$\mu \neq \mu$	Reject
Eng. Dept. support	2.650	3.59	0.0001	0.0001	$\mu \neq \mu$	Reject
Training and education	2.850	4.02	0.0000	0.0000	$\mu \neq \mu$	Reject

*Bold values are statistically significant with a $p < 0.05$

Table 10
Implementation barrier elements to short-run* SPC use

Elements	Users Short-N	Non-users Short-Y	<i>t test-p</i>	<i>MW-p</i>	Result	Decision
Resistance of technology	3.02	3.59	0.040	0.0456	$\mu \neq \mu$	Reject
Mfg. Dept. support	3.19	3.65	0.078	0.0973	$\mu = \mu$	Accept
Eng. Dept. support	3.01	3.26	0.370	0.3830	$\mu = \mu$	Accept
Training and education	3.39	3.32	0.800	0.7066	$\mu = \mu$	Accept

*Bold values are statistically significant with a $p < 0.05$.

respondents included a wide range of industries in both countries and the subsequent analysis provided a basis for a number of empirically based conclusions. Some of the major findings in our study include:

1. While short-run SPC techniques are only used in a minority of U.S. and Japanese firms, the proportion of U.S. firms using short-run SPC techniques is greater than Japanese firms.
2. Japanese managers report more improvement in the basic elements that make up manufacturing management methods than U.S. managers.
3. Firms that use short-run SPC techniques report more improvement in most basic elements that make up manufacturing management than non-short-run SPC firms.
4. There are significant differences in some of the implementation barriers of short-run SPC techniques when comparing Japanese firms with U.S. firms.

One of the limitations of this study is the fact that there can be some confusion on what constitutes short-run SPC methods from any other type of SPC methods. The fact is that some SPC methods can be used as short-run SPC methods or at least called short-run SPC methods. While this study and the information that accompanied the questionnaire tried to clearly identify short-run SPC methods, it is possible that some of the responses in this questionnaire may have been biased by this fact. We acknowledge that this bias may be present in the study's results but have found no evidence that it brings any of the conclusions into question.

Another possible limitation of this study is that of non-respondent bias. The reduced return rate of the U.S. managers was clearly below expectations. While the non-respondent post-survey work reported did not reveal any bias, there is always a chance that such bias may exist in the survey results.

Practical Implications for Managers

Small-lot size production is an essential part of any strategy to achieve world-class manufacturing. Short-run SPC systems will continue to be popular as necessary methodologies to monitor world-class manufacturing quality. The results of the survey offer suggestions on areas of opportunity for managers in both the U.S. and Japan. The dominance of the use of process control techniques, like Jidoka, used by 46.25 percent of Japanese managers and only 1.72 percent of U.S. managers, may suggest missed opportunities for U.S. managers to improve operations by an increased use of all of the process control methods listed in Table 5. Another area of revision for U.S. managers indicated by the survey results is in the assignment

of worker responsibilities. Several striking differences, like the assignment of the Four Ss, where 100 percent of the Japanese managers viewed them as a worker's responsibility and only 5.17 percent of U.S. managers viewed them similarly. Clearly U.S. managers might want to restructure their workers' assignments.

Another management focal point revealed in this research is that the use of short-run SPC seemed consistently to be perceived as providing a more improved result than non-short-run SPC operations (note Table 8). The implication maybe that by using short-run SPC methods in an operation can improve their manufacturing management.

Japanese managers may also find the results of this survey useful in helping to overcome potential implementation barriers in the use of short-run SPC methodology. The need for increased education, training, in the use of SPC techniques and departmental support were all found significantly lacking by Japanese managers, when compared to U.S. managers in Table 9. Clearly these are areas that Japanese firms should target for improvement if they are to maximize the benefits of short-run SPC methods. ■

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Appendix I
Select questions used in the manufacturing company questionnaire

1. What is your company's line of business?
 1. Steel 2. Steel Product 3. Electronics 4. Automotive 5. Optical 6. Others
2. Please indicate the number of employees in your plant.
 1. Below 10 2. 10 – 30 3. 30 – 50 4. 50 – 100 5. 100 – 200 6. 200 – 300 7. 300 - 500 8. Over 500
3. What percentage of your production workers have joined the union?
 1. No union 2. Less than 30% 3. 30%-50% 4. 50%-70% 5. 70%-90% 9. Don't know
4. Is your plant currently implementing or has implemented any of the following management paradigms? (Please check as many as possible.)
 Reengineering _____ Downsizing _____ Restructuring _____ Benchmarking _____
 Empowerment _____ Out-sourcing _____ Cross-Function _____ Others _____
5. What percentage of employees in your plant have graduated from college?
 1. Below 10% 2. 10-30% 3. 30-50% 4. 50-80% 5. Above 80% 9. Don't know
6. Is your plant using Dr. Shewhart's approach of statistical process control chart?
 1. No 2. Being developed 3. Yes (In some areas) 4. Yes (In most areas) 9. Don't know
7. Have you heard of any types of Short-Run statistical process control (SPC) techniques?
 1. Yes 2. No
8. Is your plant using any types of Short-Run statistical process control (SPC) techniques?
 1. No 2. Being developed 3. Yes (In some areas) 4. Yes (In most areas) 9. Don't know
9. If your answer of Question 8 is other than 1 or 9, please indicate the types of Short-Run SPC techniques that are used, if any, in your plant. (Please check as many as possible.)
 Nominal chart _____ Target chart _____ Difference chart _____ Code value method _____ Other _____
10. Please indicate other Short-Run SPC types of quality control techniques that are used, if any, in your plant. (Please check as many as possible.)
 Fail-Safe System _____ Fool-Proof (Pokayoke) _____ Jidoka (Automation) _____ Andon Lights _____
 Standardization _____ Pareto Chart _____ Fishbone Chart _____ Check Sheet _____ Others _____
11. Please check the responsibilities of your production workers.
 _____ Daily checks and maintenance of machines _____ Inspecting finished products
 _____ Inspecting and maintaining production process _____ Perform corrective action
 _____ Analysis of causes of defects _____ Seiri, Seidon, Seiketsu, Seiso
 _____ Monitoring operations for process standards _____ Inspecting incoming parts
12. Please indicate to what extent each of the following criterion has been improved as a result of the implementation of current process control techniques.
 (1) Not improved at all (2) Slightly improved (3) Moderately improved (4) Reasonably improved (5) Extremely improved (9) Not related

a. Lot size reduction	1	2	3	4	5	9
b. Setup time reduction	1	2	3	4	5	9
c. Inventory level reduction	1	2	3	4	5	9
d. Process stability	1	2	3	4	5	9
e. Process capability	1	2	3	4	5	9
f. Quality	1	2	3	4	5	9
g. Degree of SPC understanding	1	2	3	4	5	9
h. Quality of supplier's product	1	2	3	4	5	9
i. Supplier's process stability	1	2	3	4	5	9
j. Productivity	1	2	3	4	5	9
13. Please rate how important each of the following factors is as a barrier to the implementation of Short-Run SPC techniques in your plant.
 (1) Not important at all (2) Slightly important (3) Moderately important (4) Reasonably important (5) Extremely important (9) Not related

a. Human resource resistance of new short-run SPC techniques	1	2	3	4	5	9
b. Support provided by the manufacturing department	1	2	3	4	5	9
c. Support provided by the engineering department	1	2	3	4	5	9
d. Availability of training or education in the use of new techniques	1	2	3	4	5	9

Avoiding Liability for Communicating Information on Managerial and Professional Employees

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Abstract

Companies regularly need to communicate information about their employees' performance to a variety of people who need to know; internally to co-workers involved in audits or evaluations, and externally to customers and clients, the media, and prospective employers seeking references. Where the information is negative, companies fear the backlash of defamation lawsuits from employees. If the employees are themselves managers or professionals, the quantity and quality of information, the need for its disclosure, and the magnitude of the legal threat all rise. Highly publicized defamation cases have prompted a wave of no or limited comment policies. By reading brief case synopses illustrating the various communications settings, managers can gain a more accurate sense of the practical dynamics and law of employee disclosure. They can then better evaluate the view that the risk reduction offered by no-comment policies does not justify the adverse effect on their own companies, their productive employees, and other stakeholders in accurate information. Managers can create policies and procedures that make both business and legal sense.

Introduction

Business owners, supervisors, and managers are often asked by persons inside and outside their organizations to disclose information about current and former employees. Whenever the information is negative, or perceived as negative, many fear lawsuits and instinctively adopt the old adage, "if you can't say anything good about someone, don't say anything at all." This concern can be especially acute when the employees are professionals or managers whose work records are more subjective and whose reputations are more vulnerable than those of subordinate employees. The purpose of this article is to define defamation in this context, describe some relevant and hopefully interesting situations involving external (performance references, media statements and comments to clients) and internal communications, and make recommendations to help reduce the fear and uncertainty in this area.

...many fear lawsuits and instinctively adopt the old adage, "if you can't say anything good about someone, don't say anything at all."

Identifying the Problem

Defamation Contexts: Special Risks With Professional and Managerial Employees

Many situations can arise where an employer risks legal liability for negative statements made about former or current employees. The motivations range from satisfying job reference requests to defending reasons for employee terminations, either to the media for general public consumption or more narrowly to clients or customers of the business. The motivation may be offensive, to promote the company position or protect others from potential physical or financial harm; or defensive, to rebut false or misleading negative statements made by the employee. Employers may also wish to internally disseminate accurate information about actions taken against employees to stop false rumors and preserve workforce morale.

These motivations may often become more acute, and the risk of backlash claims greater, where the subject of the company's statements is a professional or managerial employee. The emotion and energy associated with actions against these employees, their level of responsibility and access to sensitive information and trade secrets, the impact of actions against them on the related roles of other employees, and the public interest in and credibility of their views on the company and their terminations, may in many cases be greater than those factors applied to rank and file employees. The receivers of the information may expect more comprehensive and accurate information corresponding to the greater responsibility of these employees, creating more room for opinions and conclusions to be understood as fact-based. Simply stated, the stakes may be higher when the most

talented and trusted employees leave or become the subject of controversy.

Professional and managerial employees... may be more aware of their legal rights and less fearful of the legal system.

As the company's need to speak rises, so may the employee's need and willingness to sue. Professional and managerial employees often have more to lose from adverse statements. They may be more aware of their legal rights and less fearful of the legal system. News often spreads more quickly through an industry and a community when it involves high levels of consequence and interest. In view of these special risks faced by employers in these situations, we will review and analyze state court defamation cases that involve only these employees.

Legal Elements of Defamation

Employees who believe their employers have improperly made negative statements about them have recourse to a wide range of legal claims, including invasion of privacy, intentional infliction of emotional distress, and negligent referral and misrepresentation. But the most common complaint is defamation, defined as the unprivileged publication (communication) of oral or written false statements tending to harm the reputation of another person. The words must assert facts or express opinions that reasonably imply assertions of fact (Individual Employee Rights Manual, IERM 515:101 1996).

The requirement that the statements be unprivileged means that the employer has abused the freedom to speak given in common law as a "qualified privilege," or by statute in one of over twenty states granting immunity from liability for statements about employees generally or job references particularly (IERM 515:116 1996). An example of an immunity statute is in Louisiana where employers are immune from civil liability for giving information about the performance or reasons for termination of a current or former employee. The statute does not apply if the request comes from any source other than the employee or prospective employer, or if the information is "deliberately misleading" (Landry and Hoffman 1996).

These protections exist to encourage open communication among givers and receivers of information with common interest in the employee. Employers lose the privilege or immunity, however, if they act maliciously by knowing the statements are false or by recklessly disregarding their truth or falsity. The statements are also unprivileged if employers pursue a purpose or communicate with persons outside the

proper scope of common interest (*Kosmitis v. Bailey* 1996).

An absolute protection for employers is the element of truth. A utility company told a former employee that it terminated a manager for inadequately supervising a violator of its sexual harassment policy. Since that statement was true, the manager's lawsuit was dismissed without trial (*Klontz v. Puget Sound Power & Light Co.* 1998).

The harmfulness of the statements can either be obvious (called defamatory per se) or circumstantial (called defamatory per quod). Defamation per se is typically shown by words alleging that employees cannot competently perform their duties. Less obviously harmful words must be shown as objectively negative based on their context and the effects employers reasonably intend to produce in the minds of average listeners (*Kosmitis* 1996). For example, a statement that an investment broker would soon lose his license due to professional misconduct was held defamatory per se (*Shearson Lehman Hutton, Inc. v. Tucker* 1991), while a statement that differences of opinion made it impossible to retain an employee may only be considered defamatory under the circumstances (*Attas v. Park East Animal Hospital, Inc.* 1997).

The elements of malice, falsity, and injury are all presumed when statements are defamatory per se, but employers can try to rebut the presumption. These elements are not presumed and employees bear the entire burden of proving statements are defamatory in the circumstantial cases (*Kosmitis* 1996). The makers of defamatory statements are liable personally, and their employers are also responsible if the statements are work-related (*Chisholm v. Foothill Capital Corporation* 1996). The receivers of the information can be any third persons, including co-workers of those making the statements (*Simpson v. Mars* 1997).

External Communications

Employment Reference Cases

The most troublesome and litigated area of employer defamation involves performance references. Many companies authorize one person to give references and limit the information to the employee's start and end dates and duties, even if the requesting employer supplies a release signed by the ex-employee. Such conservative approaches are reasonable reactions to the alarming cases of liability circulated in the media, but they are unnecessary if employers understand the primary legal issues in the job reference context, which are 1) whether statements are expressions of fact or opinion implying fact, 2) whether carelessness in fact-finding is reckless enough to forfeit qualified privilege or immunity, and 3) whether employee releases are valid. A final and emerging

potential liability deals with employers who place ex-employees in situations where they must defame themselves.

Fact or opinion. Employers are only responsible for false negative *factual* statements, because their subjective opinions are constitutionally protected from court sanctions as free speech. “There is no such thing as a false idea” (*Quinn v. Jewel Food Stores, Inc.* 1995, 1230). The more job references are ambiguous and incapable of proof, the less they are subject to defamation claims. If a company gives facts to a prospective employer or both companies know facts about an employee, and the former comments on the employee’s conduct, qualifications or character based on those facts, the comments are clearly protected. But if the facts are *not* stated or known, and the comments wrongly imply that undisclosed facts exist to support the opinion, the reference is at risk.

In *Quinn*, a management trainer recorded the following comments about an employee on an evaluation form after an

Employers are only responsible for false negative FACTUAL statements, because their subjective opinions are constitutionally protected from court sanctions as free speech.

interview:

“Strong points: Employee is “very aggressive, to the point of being cocky . . . could be a problem!”

“Weak points: A con artist! Watch out for the bullshit!” (*Quinn* 1995, 1232)

The company sent the form with the employee’s authorization to his prospective franchisors who turned him down. The court found the statements to be opinions not factual assertions of his abilities. They were also found non-defamatory, that is, subject to the innocent interpretation that he was highly persuasive and frequently talked about himself, as opposed to the false negative interpretation that he was a swindler (*Quinn* 1995).

Recklessness. The opinion and innocent meaning defenses do not work if the job reference information is understood to be factual and is found untrue. But even if companies give false factual information, employers can prevail using the qualified privilege/immunity defense described above if the error is inadvertent (*Sigal Construction Corp. v. Stanbury* 1991). These doctrines, available in some form to all employers, should calm the fears of companies facing reference requests. The standard is simply a good faith effort to be truthful.

The court in *Sigal* faced the situation of a construction company executive making statements in a reference interview about a discharged project manager. He said the employee

“seemed detail oriented to the point of losing sight of the big picture” and “obviously he no longer worked for us and that might say enough” (*Sigal Construction Corp. v. Stanbury* 1991, 202,203). In the context of one construction decision-maker talking with a construction industry peer about the manager’s employment, and with other undisputed facts communicated, the executive must or should have known his information was taken as factually-based. In truth, the executive had *never* talked with the employee about his work; all his knowledge was second-hand from casual conversations with others. His failure to verify his statements constituted gross recklessness and the former employer was liable for the rejection of the employee’s job application (*Sigal* 1991).

Perhaps the most notorious case of a reckless reference extended beyond overly negative statements to overly positive ones. The California Supreme Court decided that once a school district volunteered information on a former school administrator, it owed a duty to his new employer and one of its students to tell the employer about its sexual misconduct charges against him. This silence converted its unconditional praise of the administrator into “misleading half-truths” (*Randi W. v. Muroc Joint Unified School* 1997, 591).

Employee consent waivers. In an effort to prevent defamation issues from arising, some employers require the receipt of signed reference authorizations from ex-employees that include comprehensive releases of liability. These waivers *may* work and certainly represent good company policy, especially if the ex-employee has reason to anticipate the negative reference. In *Smith v. Holley* (1992), a police officer’s file contained information that she failed probation for pulling a weapon in a public place, filing inconsistent reports and failing to follow the chain of command. When she applied for a new job, she signed a release of “any individual...from any and all liability for damages of whatever kind or nature which may at any time result... (from) this authorization” (*Smith v. Holley* 1992, 435). The court stated the general rule that a consent to defamatory statements is a complete defense to a defamation lawsuit if the employee should know that these statements may be negative. This police officer directly knew that several members of the department held unfavorable views on her performance, so she lost her case (*Smith* 1992).

Self-publication. Employers should become aware of a new reference defamation doctrine called “self-publication” adopted in only a minority of states but gaining acceptance. A good example is the *Sullivan v. Baptist Memorial Hospital* (1997) case, where a hospital fired a staff nurse for alleged theft of its property despite her denials. She could not find another job because she was forced to explain the reason for her termination on the applications. Even though the hospital did not communicate its accusation to anyone, the court held that she was entitled to a trial to show that the hospital knew it was false or carelessly accepted it as true, and could foresee

she had no reasonable way to avoid saying it herself (*Sullivan* 1997). The legal message is again clear; employers owe employees reasonable efforts to verify negative information about their performance, regardless of the source or reason for its disclosure.

Media Communication Cases

A second external communication context for defamation occurs when companies furnish negative employee information to the general public via the media. As one may expect, the potential for damages rises as an employee adds public humiliation to a standard claim of lost employability caused by unfavorable job references to a limited number of third parties. *Slover v. Oregon State Board of Clinical Social Workers* (1996) illustrates how such cases arise. A state board of social workers caused a statewide newsletter to publish statements that a clinician engaged in “what could best be described as highly questionable techniques or exercises” in an article entitled “A Dubious Therapeutic Technique.” The article said the worker’s therapy had a “detrimental effect...was countertherapeutic and constituted inappropriate clinical practice” (*Slover v. Oregon State Board of Clinical Social Workers* 1996, 1100).

In this context of a publication distributed to the worker’s professional peers, the court found these obvious opinions to infer undisclosed false negative facts about the techniques and their effect on patients. In other words, these statements were likely to be understood by these readers as based on facts (*Slover* 1996). This case emphasizes one of the risks of statements about employees particular to professionals and managers; that their heightened responsibility may justify the belief in the receivers of the information that the publishers know the employees better, that their effort to verify the information is greater, and that the opinions and conclusions are more grounded in unmentioned facts than where employees have less responsibility.

Awareness of these rules on when statement content is defamatory allows companies to use logic and common sense to avoid liability. The following unsuccessful media communication claims illustrate that courts remain sympathetic to business realities:

- State comptroller agency executives told newspaper reporters that they fired a bureau director because she could not get along with them. The court found that the statement did *not* insinuate misconduct. “Stating that there were personal problems between Fry and her co-workers casts no more aspersion on Fry than on any of her co-workers or on the defendants themselves” (*Fry v. McCall* 1996, 659).
- A store manager told a newspaper reporter that he fired a senior employee because “we did a little restructuring of our senior staff and these people weren’t producing as we

thought they should” (*Howard v. Alford* 1996, 208). The court said that the mere expression the employee did not meet expectations was more than mere “opinion” but not negative; it did not impute incompetence (*Howard* 1996).

Client/Customer Communication Cases

A third external publication scenario involves statements to clients and customers. This setting poses perhaps the greatest temptation of all to speak against former employees. Here employers are usually competing directly with former employees for real sources of work, which may apply more pressure than the fear of losing potential customers and goodwill in the general public (media cases), losing morale of remaining employees (internal communication cases below), or losing liability lawsuits to employees (reference cases).

Defamatory content. Recall that employer defamation must begin with negative wording strong enough to damage the

...most honest attempts to describe the disagreements common to higher-level terminations are NOT problems.

employee’s professional or managerial reputation by alleging misconduct, dishonesty, or unfitness. As we have seen in other contexts, most honest attempts to describe the disagreements common to higher-level terminations are *not* problems. In *Attas*, a veterinary hospital supervisor explained in a letter to clients that he and a veterinarian “had an increasing number of differences of opinion which made it impossible for me to continue her as an employee” (*Attas v. Park East Animal Hospital, Inc.* 1997, 281). This wording did not per se attack her professional qualifications, nor did the rest of the letter make such an inference reasonable (*Attas* 1997).

Compare *Attas* to *Chisholm v. Foothill Capital Corporation* (1996), where a bank employee told a business associate that his fellow vice-president in marketing had resigned after “double dealing” between the bank and another company for which her husband was managing director. The court allowed her claim to proceed to trial, finding the content on its face caused its intended effect of ruining her professional reputation for integrity (*Chisholm* 1996).

Fact or opinion. Another example of a speaker who could not resist criticizing a former employee/now competitor occurred at the Shearson Lehman brokerage firm. A senior vice-president of sales and supervisor of a broker terminated for violating company policy told two of the broker’s former clients that the former employee would lose his broker’s license, was in big trouble with

the Securities and Exchange Commission, and would never work again as a broker. Shearson claimed these statements were merely predictions and therefore protected opinions, but the court found them to imply undisclosed facts of serious misconduct adversely affecting the broker's reputations for fitness (*Shearson* 1991). As in *Chisholm*, one can sense the maliciousness behind the words.

Malicious or negligent. The malicious nature of the remarks in *Shearson* color entire cases against employers and legally deprive them of their qualified privilege to speak. A final client example is the lawyer who did not hesitate when asked why his fired colleague no longer worked at the firm. He said she "is not a real lawyer. She does not know how to handle a case. She was my gopher. She was fired for misconduct, for inappropriate behavior, and for failing to do any work. She is an incompetent lawyer" (*Kosmitis v. Bailey* 1996, 1184). The court made the obvious decision that the statements could objectively be regarded as designed to lower her in the eyes of her clients (*Kosmitis* 1996).

Internal Communications

Our last category of employer liability for defamation of professional and managerial employees occurs when companies communicate to their *own* employees. Job reference cases teach employers the need for fact-finding diligence, media cases teach a need to question whether public relations objectives merit the risk of high-profile mudslinging, and client cases teach that competition for business can breed dangerous hostility. Cases involving internal communications instruct employers to focus on who needs to know the information and to beware of spite. Which employees are told, why they are told, and how clearly they are told predict success or failure in preserving qualified privilege protection and defending claims of maliciousness. Malice is more likely presumed where personal attacks are made for their own sake to those who do not need to know, than where information is shared with those who can serve the company's interests. And courts will consider not only the meaning of what is said, but the reasonable implications of the words.

The rule and importance of privilege in this setting clearly appears in *Brehehy v. Nordstrom, Inc.* (1991). Internal (and external) communication is safe and its motive assumed innocent if made to protect the legitimate interest of the giver, the receiver, or a third person. Department store executives in this case stated during a manager's meeting that discharges of a manager and a buyer were drug-related. The court applied the privilege and excused the employer based on its valid interest in enforcing its drug policy and deterring the managers and managed employees from drug use (*Brehehy* 1991).

Similarly, in *Hanton v. Gilbert* (1997), a state university department chairman's interest in the smooth running and morale of his department protected a memo he sent to department members to end misleading rumors about his dismissal of a

research analyst. The resulting presumption of the chairman's good faith defeated the analyst's defamation claim, despite his damaging and unverified accusations that she failed to fulfill her job responsibilities (*Hanton* 1997). Another example is the case of *Boze' v. Branstetter* (1990), where the court allowed the supervisor of a corporate attorney to write a performance evaluation "totally devoid of objectivity and impartiality" and to tell his own supervisor the attorney was the "worst rated lawyer" in the entire national corporate law department. The privilege "recognizes the need for free communication of information to protect business and personal interests," but it is not absolute; malicious intent can destroy it (*Boze'* 1990, 806). The court was careful to note that Boze' admitted his relationship with the supervisor was "cordial" throughout his employment and he could not prove any personal vendetta. Also, the evaluation was never disclosed to anyone lacking a direct interest in Boze's job performance (*Boze'* 1990, 807).

Corporate managers in *Torosyan v. Boehringer Ingelheim* (1995) could legally communicate with each other during a meeting with a chemist, dismissing him for falsifying travel expense reports and could place a memorandum to that effect

Malice is more likely presumed where personal attacks are made for their own sake to those who do not need to know, than where information is shared with those who can serve the company's interests.

in his personnel file. But the privilege was abused and the case lost because they ignored the employee's logical explanation, failed to investigate, and denied further review. Their motive was clearly improper; finding an excuse to fire him (*Torosyan* 1995).

In a related situation, a department manager criticized by a microcomputer specialist responded by demoting him, then discussing a suspicion the specialist had erased computer files with seven people in the company, all of whom might have known what happened or needed the files. But while the manager chose a proper group to hear his accusations of sabotage, his statements implied proof when in fact he recklessly disregarded proof in his effort to retaliate, so the company lost the case (*Staples v. Bangor Hydro-Electric* 1993).

Statements can also defame by implication. A president apparently motivated by self-promotion told employees that his new management team had been installed to stop the "old management practice of letting things go out

the back door” (*Ives v. Guilford Mills, Inc.* 1998, 1999). This statement was slanderous because he was obviously imputing dishonest character to an executive fired three days earlier. The president could not show evidence of theft involving the executive, nor could he show a valid business interest in attacking her reputation. On the other hand, a licensed real estate agent lost his claim that his supervisor’s email message to fellow members of his department falsely implied company liability for his professional malpractice. The message simply stated that the two of them had agreed he would begin looking for a new position. The agent could not show that his peers knew about the prior concerns or animosity of the supervisor, so his case was dismissed (*Lian* 1998).

Damages

A brief note on the costs to employers of losing defamation suits might help provide perspective. Defamed employees can recover financial and emotional compensation, and in extreme

cases punitive damages. Financial awards cover losses such as past and future lost income and lost profits. Emotional awards cover more subjective injuries such as lost reputation and humiliation. If the judges or juries find that the statements are knowingly or recklessly false, they can add a “reasonable” amount of punitive damages to punish the behavior (*Shearson* 1991).

The dollar amounts and types of awards generally depend more on the degree of unfairness of the employer actions and its effects on employees than on the external or internal category involved. Typical is the chemist *Torosyan* who received \$146,500 in lost wages for two years of unemployment and \$45,000 in humiliation and lost reputation (*Torosyan* 1995). The construction project manager *Sigal* received \$250,000 to compensate for two years lost earnings in a subsequent lesser paying job (*Sigal* 1991). Both cases involved total disregard for the truth of the accusations, but neither the judge nor the jury, respectively, were moved to add punishment damages.

Exhibit 1 Employee Communication Policy

Recommendation	Explanation
<i>Designate a single person, human resources manager or otherwise, to be solely responsible for external communications with job references, media releases and client/customer contacts.</i>	Internal communication must be limited to this person and the minimum number of performance review or other personnel who need to deal with the performance. The point person must be closely supervised by one of the primary operations officers to assure the policy is followed and personality conflicts do not escalate into retaliation. Personal vendettas cause many of the serious defamation losses.
<i>For job reference requests, the point person must require a signed employee authorization and release of liability.</i>	The authorization must include name, address, phone and fax numbers, and social security number with a copy of the employee’s particular application form to verify the application and the name of the person to receive the information. The application assures that the information will enjoy qualified privilege or immunity, which are threatened if the employee did not actually apply or is already working for the new employer. This rule may also serve the purpose of substantially lowering the number of requests by eliminating unnecessary ones. The employee data verifies the employee’s identity and allows the reference-giver to notify ex-employees in provable form where negative information may surprise them. This alert ends the primary challenge to the validity of releases, which is that persons cannot release unknown rights.
<i>Prepare for and speak the truth fearlessly since it defeats the basic falsehood needed for defamation claims.</i>	<i>Employers incur no liability for accurate facts</i> no matter how horrific, nor for the generally sought opinions and conclusions about employee performance <i>if the accurate facts used to make them are included</i> . Trouble arises from factual errors or naked opinions that appear but lack factual foundations. Even where facts are unavailable, speakers can safely avoid the contrary implication by simply (<i>in provable form</i>) identifying pure opinions as such, though the nominal value of such information suggests silence in those situations. Who indeed wants to give or receive uninformed opinions?
<i>Document personnel files with all performance evaluation data, especially investigations of misconduct and evaluations of poor performance.</i>	Good business dictates that employees and their training costs, which are especially high for managers and professionals, not be lost without cause. Detailed records following thorough review promote sound personnel decisions and deflect claims of malice and recklessness that are the key to defamation losses with punitive damages. As a side benefit, they are crucial to the defense of wrongful discharge claims.
<i>Educate managers and supervisors that giving negative information to co-workers must be limited to only those with a need to know.</i>	They must tell the recipients the reasons for the disclosure and the instruction that they cannot share it with anyone in or outside the workplace. They must understand that arbitrary disclosure substantially adds to the risk of defamation liability for the company and for them personally.

In exceptional cases, judges and juries can become angry and companies pay more dearly. The Shearson supervisor who attacked the broker to his clients cost the company \$84,000 for lost earnings, \$212,000 for lost reputation, \$19,000 for mental anguish and \$1,000,000 for punitive damages (*Shearson* 1991). And an angry life insurance company general counsel, who sent letters to a fired agent's peers and his two subsequent carriers with lies about his termination grounds, cost the company \$700,000 in compensation (primarily for a lost business deal) and \$700,000 in punishment (*Vanover v. Kansas City Life Ins. Co.* 1996).

Recommendations for Avoiding Liability

Our objective is not to alarm employers with the spectre of severe liabilities, but to create an awareness of the risks and suggest policies enabling the safest communication of employee information. We recognize that many business decision-makers have responded to this potential threat with no-comment policies withholding from third parties all employee information. Another common strategy is releasing only neutral information such as start/end dates, position descriptions and salaries. Companies may also take the approach of giving favorable reviews of good workers and "no comment" reviews of bad ones.

These alternatives all admittedly reduce defamation risk compared to full disclosure policies. We submit, however, that censuring the release of meaningful data is to some degree impractical and in any event unnecessary. Where negative employee material is communicated internally as part of quality control or an investigation of misconduct, the above three options contradict those efforts. When screening external communications, one must recognize the practical pressures on the company spokesperson facing requests by customers, the media and prospective employers for this information. Many employers, especially smaller companies that form longstanding relationships with their employees, may be uncomfortable penalizing good workers and protecting bad ones. The temptation will be intense to make exceptions, to speak "off the record," and to suggest other sources so that employees and third party requesters they favor learn the substantive information anyway. Once a policy is compromised, so is its legal viability.

Even if no or limited comment policies could be strictly enforced, censuring harms employers, their productive employees, and the larger community of consumers and businesses. One major disadvantage to employers in the referral context is trading the reduced defamation risk for negligent referral risk. The more severe and wide-ranging the employee's misconduct, such as the sexual abuse in *Randi W.* and the more the silent employer knew or should have known about it, the greater the potential liability for not disclosing it. Further,

business reputation in an industry or consumer market can suffer where rumors about high level employee misconduct circulate unchecked by accurate information defending the company's position.

Thirdly, silent employers can expect third parties denied references to reciprocate, so that an expanding referral gridlock greatly restricts meaningful applicant evaluation for everyone. The majority of employees who are competent and who want and need a thorough reference are greatly disadvantaged. Finally, silence is bad public policy in that it facilitates the rise in résumé fraud and allows undesirable and sometimes criminal employees to circulate freely and create more disruption with their new employers, co-workers, and customers with enough authority and control to cause serious damage.

A more permanent and positive approach may be adopting an employee communication policy with as many of the following recommendations, illustrated in Exhibit 1, as are feasible.

The risk of liability for defamatory statements concerning professional and managerial employees does exist, but it need not obstruct the reasonable flow of information needed by employers evaluating past employee performance. We offer these descriptions of common case situations and suggestions for employer policies to help employers reach that objective. ■

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CEO Compensation, Performance Variables, and Socially Responsible Investing

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Abstract

Significant investment dollars are now allocated to companies deemed by investors as socially responsible. This socially responsible theme contends that corporations should be held accountable for the totality of their actions and decisions, including CEO compensation levels. This paper investigates whether CEO compensation levels are more associated with traditional performance measures for socially responsible firms than for firms deemed not socially responsible, with the assumption being that social choice firms will be more sensitive to and may attempt to align CEO compensation levels with corporate performance. Rank correlation analysis and regression results using nine performance variables for 270 firms indicated that CEO compensation levels at social choice companies were more highly associated with performance variables than those at nonsocial companies. The study results suggest that social choice companies, in addition to their other corporate good deeds, seem to include CEO compensation levels as a part of their overall corporate decision process.

Introduction

Fueled by a robust stock market, lucrative stock compensation packages, and signing bonuses, the average Chief Executive Officer (CEO) at U.S. corporations now earns 326 times what a factory worker earns. CEO compensation increased by 54 percent in 1996 and 35 percent in 1997. The 1997 increase of 35 percent significantly outpaced the increase for blue-collar and white-collar workers, which averaged only 2.6 percent and 3.8 percent, respectively.

These significant CEO compensation levels and increases have created an increased demand for greater accountability and linkages of compensation to corporate performance. Whether founded or not, there is a public perception that CEO compensation is excessive. Firms are now judged to be not socially responsible if their CEO compensation is considered excessive. Besides overall corporate performance, rules on CEO compensation have become a component of the “good deeds” that a socially responsible firm needs to address. And since one in every ten new investment dollars is directed

...significant CEO compensation levels and increases have created an increased demand for greater accountability and linkages of compensation to corporate performance.

toward firms identified as socially responsible, social concerns should be a consideration when deciding among alternative, socially impacting business decisions.

This paper explores the relationship of CEO compensation, performance measures, and socially responsible investing. That is, do social choice firms better align CEO compensation with corporate performance and size measures than companies deemed nonsocial choice?

Compensation Levels

The robust stock market in 1997 has caused CEO compensation to increase significantly from 1996 compensation levels. At the largest 365 U.S. corporations, CEO's total compensation averaged \$7.8 million in 1997, compared to \$5.8 million in 1996, for a 35 percent increase. This increase was fueled primarily by deferred bonuses and stock option packages. According to the May 18, 1998 issue of *Forbes*, CEOs at the 800 largest U.S. corporations received in 1997, on average, \$2,300,000 in total compensation, comprised of salary and bonus, \$1,218,000 (61%); cashed in stock options, \$877,000 (28%); and other compensation \$205,000 (11%). Competition among companies for the pool of existing CEOs has further driven compensation levels higher. For example, software maker Borlan hired a former Apple Computer executive by offering a \$3.86 million signing bonus, \$3.85 million toward the purchase of a house, along with stock options valued at \$9.6 million. The 35 percent average increase in 1997 for CEO total compensation even outpaced the significant 31 percent Standard & Poor's 500-stock index gain and overshadowed the 5 percent increase in overall corporate profit levels.

Corporate boards attempt to dispel critics of these significant CEO compensation levels by terming these increases as the necessary cost of doing business. However, there is a significant push to link CEO compensation to corporate performance. Under this philosophy, CEO pay should move with changes in shareholder wealth.

Socially Responsible Investing

Following the CEO compensation accountability theme, socially responsible investing contends that corporations should be held accountable for the totality of their actions and decisions. This accountability perspective has grown to the current proportion of one of every ten new investment dollars allocated to socially responsible causes. Besides CEO compensation, social causes can include concerns such as a company's involvement in specific countries, nuclear waste production and its disposal, environmental effects of corporate activities, and personal health and safety issues. Investors are increasingly investing in companies most aligned to their personal values.

Socially responsible investment choices are numerous. In fact, many mutual fund companies now offer one or more socially responsible investment choices. The TIAA-CREF Social Choice Fund, for example, is designed to provide a return that reflects a broad investment performance while giving special consideration for certain social criteria. At present, the fund will not invest in a company if it:

- a. engages in activities that result or are likely to result in significant damage to the natural environment;
- b. has a significant portion of its business in weapons manufacturing;
- c. produces and markets alcoholic beverages or tobacco products;
- d. produces nuclear energy; or
- e. has operations in Northern Ireland and has not
 - 1) adopted the MacBride Principles (a fair employment code for U.S. firms operating in Northern Ireland and concerned with preventing religious discrimination in employment) or
 - 2) operated consistently with such principles and in compliance with the Fair Employment (Northern Ireland) Act in 1989.

To provide overall guidance and ensure compliance with the above criteria, the CREF Finance Committee and the Compliance on Corporate Governance and Social Responsibility Committee monitors investments of the fund.

Broadening the definition of socially responsible, Senators

Kennedy, Bingaman and Dashle, in 1995, proposed legislation in terms of levels of CEO compensation, types of training opportunities, spending on training, how layoffs are handled, and various other corporate "good deeds." A specific provision of the legislation defined a socially responsible company as one whose CEO receives compensation no more than fifty times the company's lowest paid full-time employee. If CEO compensation exceeded the 50:1 ratio, the corporation would be taxed at an 18 percent rate, rather than at an 11 percent rate. The legislation, in essence, implies that CEOs of firms that are deemed not socially responsible appear more concerned with profits and gaining personal wealth than caring for their employees.

Methodology of Study

The intent of this study is to determine if CEO compensation is more associated with traditional corporate performance measures for social choice (socially responsible firms) than for nonsocial choice (not socially responsible firms). The assumption is that social choice firms may be more concerned and sensitive with the level of CEO compensation and attempt to more closely align CEO compensation with corporate performance.

CEO compensation information was obtained from *Business Week* (April 20, 1998) and *Forbes* (May 18, 1998). Information on performance variables was obtained from *Fortune* (April 27, 1998). All the CEO compensation and performance variables available from these sources were included in this study. The relationship between CEO compensation and the following performance variables was investigated:

- Revenues for 1997
- Percentage change in revenues from 1996 to 1997
- Profits for 1997
- Percentage change in profits from 1996 to 1997
- 1997 profits as a percentage of revenues
- 1997 profits as a percentage of assets
- 1997 profits as a percentage of equity
- Percentage total return on investment to investors for 1997
- Market value of the firm as of March 18, 1998
- Assets at the end of 1997
- Number of employees in 1997

In total, information on CEO compensation and performance variables was available for 270 different firms. Descriptive statistics for CEO compensation and the performance variables used in this study are presented in Exhibit 2.

These 270 firms were then subgrouped between those deemed social choice and those nonsocial choice. Social choice firms were defined as those held by TIAA-CREF

**Exhibit 1: Panel A - Business Week Firms Included in TIAA-CREF Social Choice Stock Holdings
as of 12/31/97 (Social Choice Firms)**

Air Products & Chemicals	Colgate Palmolive Co.	IKON Office Solutions	Pacificorp.
Albertson, Inc.	Columbia/HCA Healthcare	Illinois Tool Works, Inc.	Pitney Bowes, Inc.
Allstate Corp.	Compaq Computer Corp.	Intel Corp.	PNC Bank Corp.
American Express Co.	Computer Associates	International Flavors	Procter & Gamble Co.
American International	Consolidated Natural Gas	Johnson & Johnson	Quaker Oaks Co.
Ameritech Corp.	Corestates Financial Corp.	Kellogg, Co.	Rubbermaid, Inc.
Amgen, Inc.	Cox Communications, Inc.	Keycorp	Safeco Corp.
AMR Corp.	CVS Corp.	Knight-Ridder, Inc.	Schering-Plough Corp.
Applied Materials, Inc.	Deere & Co.	Kroger Co.	Sears Roebuck & Co.
AT&T Corp.	Delta Airlines, Inc.	Marsh & McLennan Cos.	Sprint Corp.
Automatic Data Processing	Disney (Walt) Co.	Mattel, Inc.	Sun Microsystems, Inc.
Avery Dennison Corp.	Dow Jones & Co.	MBNA Corp.	Suntrust Banks, Inc.
Avon Products, Inc.	Dresser Industries, Inc.	McGraw Hill Cos.	Sysco Corp.
Banc One Corp.	Dun & Bradstreet Corp.	Medtronic, Inc.	Tenet Healthcare Corp.
Bank of New York Co.	Equitable Resources, Inc.	Merck & Co., Inc.	Time Warner, Inc.
Bankamerica Corp.	First Chicago NBD Corp.	Merrill Lynch & Co.	Times Mirror Co.
Bankers Trust New York	First Union Corp.	Micron Technology	Transamerica Corp.
Becton Dickson & Co.	Fleet Financial Group	Microsoft Corp.	Travelers Group, Inc.
Bell Atlantic Corp.	Gannett Co., Inc.	Minnesota Mining	Tyco International, Ltd.
Bellsouth Corp.	Gap, Inc.	Molex Inc.	U.S. Bancorp
Campbell Soup Co.	General Mills, Inc.	Morgan (J.P.)	Union Camp Corp.
Chase Manhattan Corp.	General Reinsurance Corp.	Morgan, Stanley, Dean Witter	VF Corp.
Chubb Corp.	Genuine Parts Co.	Nationsbank Corp.	Wachovia Corp.
Cigna Corp.	Grainger (W.W.), Inc.	New York Times Co.	Washington Mutal, Inc.
Cisco Systems, Inc.	Heinz, (H.J.) Co.	Newell Cos., Inc.	Wells, Fargo & Co.
Citicorp Co.	Hershey Foods Corp.	Newmont Mining Corp.	Whirlpool Corp.
Clorox Co.	Hewlett-Packard Co.	Norfolk Southern Corp.	Williams Cos, Inc.
Coca Cola Co.	Hillenbrand Industries	Norwest Corp.	Wrigley (WM) Jr., Co.
Coca Cola Enterprises	Household International	Nucor Corp.	
Cognizant Corp.	Humana, Inc.	Oracle Corp.	

Social Choice stock fund as of December 31, 1997, which consisted of stock holdings in 265 different firms. Of the 270 firms included in this study, 104 firms were held by the Social Choice Fund (and thus were deemed social choice firms) and 166 firms were not included in the Social Choice Fund holdings (and thus designated as nonsocial choice firms).¹ See Exhibit 1 for a complete listing of the 270 firms, categorized by their social choice status.

Initially the firms in each social choice grouping were ranked from highest to lowest for each of the eleven performance variables. The 1997 CEO salary and bonus, long-term compensation, and total compensation for firms in each group were also ranked from highest to lowest. The Spearman coefficient of rank correlation was then used to compare the two sets of rankings for each variable. Correlation coefficients can range from +1.00 to -1.00. A high positive correlation suggests a direct relationship between CEO compensation and that performance variable. A high negative correlation on the other hand suggests an inverse relationship. If compensation is linked to corporate performance a direct relationship (a high positive correlation) should result. That is, a positive change in revenue and profits and greater returns on equity and assets should be positively correlated to CEO compensation. If social choice firms make their CEOs more accountable for performance, those firms should have a higher positive

correlation between CEO compensation and performance measures than do nonsocial choice firms.

Secondly, the variables significantly related to CEO compensation were then considered in combination to determine if in the aggregate they can explain the level of CEO compensation more accurately for social choice firms, compared to nonsocial choice firms. Regression analysis was used to make that composite performance/CEO compensation determination. The assumption is that social choice firms may “manage” CEO compensation based on performance measures. If that assumption is true, then the regression analysis should be more explanatory for CEO compensation and performance variables for social choice firms.

Results of Study

Exhibit 2 presents the descriptive statistics for the 270 firms, categorized by social choice status (social choice and nonsocial choice). CEOs at social choice firms were generally better compensated than CEOs at nonsocial choice firms. For social choice firms the median CEO salary and benefits for 1997 was \$2,145,500; the median long-term compensation was \$1,725,000; and the median

**Exhibit 1: Panel B - Business Week Firms Not Included in TIAA-CREF Social Choice Stock Holdings
as of 12/31/97 (Non-Social Choice Firms)**

Abbott Laboratories	Chevron	FPL Group	Mercantile Bancorp.	Schlumberger
AES	Ciena	Franklin Resources	MGIC Investment	Schwab (Charles)
Aetna	Cincinnati Financial	Frontier	Mobil	Scripps (E.W.)
AFLAC	CINergy	Genentech	Monsanto	Seagate Technology
Ahmanson (H.F.)	Cintas	General Dynamics	Morton International	Sherwin-Williams
Alcoa	Clear Channel Communs.	General Electric	Motorola	Soletron
Allegheny Teledyne	CNA Financial	Georgia-Pacific	Nabisco Holdings	Southern New Eng. Tel.
AlliedSignal	Coastal	Gillette	National City	SouthTrust
Alltel	Comerica	Global Marine	New Century Energies	St. Paul
Amerada Hess	Compuware	Golden West	Nike	Stanley Works
Ameren	ConAgra	Goodyear Tire & Rubber	Northern States	Star Banc
American Online	Cooper Industries	GPU	Northern Trust	State Street
American General	Corning	Green Tree Financial	Northwest Airlines	Sterling Commerce
American Home	Costco	GTE	Occidental Pet.	Stryker
Amoco	Crestar Financial	Guidant	Old Republic Intl.	Summit Bancorp.
AMP	Crown Cork & Seal	Halliburton	Owens-Illinois	SunAmerica
AmSouth	CSX	Harcourt General	Paccar	Synovus Financial
Bancorporation	Dana	Harley-Davidson	PaineWebber Group	Tellabs
Analog Devices	Danaher	Harris	Parametric Technology	Tenneco
Anheuser-Busch	Diamond Offshore	Hartford Financial Svcs	Parker Hannifin	Texaco
Aon	Digital Equipment	Hartford Life	Paychex	Texas Instruments
Archer Daniels	Dominion Resources	HBO	PECO Energy	Texas Utilities
Ashland	Donaldson, Lufkin & Jenrette	Health Mgmt Assocs.	PepsiCo	Textron
Associates First Capital	Donnelley (R.R.)	Healthsouth	Pfizer	3Com
Atlantic Richfield	Dover	Hercules	PG&E	Torchmark
AutoZone	Dow Chemical	Hilton Hotels	Pharmacia & Upjohn	Travelers Property Casualty
Baker Hughes	DTE Energy	Honeywell	Phillip Morris	Tribune
Baltimore G&E	Duke Energy	Houston Industries	Phillips Petroleum	Tricon Global Restaurants
BankBoston	DuPont	Huntington Bancshares	Pioneer Hi-Bred	TRW
Baxter International	Eastman Kodak	IBM	PPG Industries	Tyson Foods
Bay Networks	Eaton	IMC Global	Praxair	UAL
Bear Stearns	Eaton	Ingersoll-Rand	Price (T. Rowe)	Union Carbide
Bershire Hathaway	Edison International	International Paper	Progressive	Union Pacific
Bestfoods	Electronic Data Systems	ITT Industries	Providian Financial	Union Pacific Resources
Black & Decker	EMC	Jefferson-Pilot	Public Service Ent.	Union Planters
Boeing	Emerson Electric	Johnson Controls	Qwest Communs.	United HealthCare
Briston-Myers Squibb	Enron	Kansas City Southern	Ralston Purina	United Technologies
Browning-Ferris	Entergy	Kimberly-Clark	ReliaStar Financial	UNUM
Burlington Northern Santa Fe	Equifax	Leggett & Platt	Republic Industries	UST
Burlington Resources	Estee Lauder	Lehman Brothers Holdings	Republic New York	USX-Marathon
Cadence Design Systems	Exxon	Holdings	Reynolds Metals	Walgreen
Capital One Financial	FDX	Lilly (Eli)	Rite Aid	Warner-Lambert
Cardinal Health	Fifth Third Bancorp	Linear Technology	RJR Nabisco	Washington Post
Carnival	First Data	Lockheed Martin	Robert Half International	Waste Management
Carolina Power	First Security	Loews	Rockwell International	WellPoint Health
Caterpillar	First Tennessee Natl.	Lucent Technologies	Rohm & Haas	Weyerhaeuser
CBS	Firststar	Marshall & Ilsley	SABRE Group Holdings	Willamete Industries
Cendant	FirstEnergy	Maxim Integrated Prods.	Safeway	Winn-Dixie Stores
Ceridian	Fluor	MBIA	Sara Lee	World Com
Charter One Financial	Fort James	Mellon Bank	SBC Communications	
	Fortune Brands			

total compensation was \$4,480,500. The corresponding CEO median compensation for nonsocial choice companies were \$1,796,000, \$1,800,500 and \$3,763,500 for CEO salary and benefits, long-term compensation, and total compensation, respectively. However, median CEO compensation for nonsocial choice firms increased more from 1996 than did CEO compensation for social choice firms (14% compared to 11.5%). As shown in Exhibit 2, mean CEO compensation

levels were significantly higher than median CEO levels indicating that certain CEOs were very highly paid compared to the average CEO.

In terms of the performance variables, nonsocial choice firms had greater median revenues (\$8,774 million compared to \$7,922 million) than social choice firms and a greater number of employees (33,200 compared to 32,159) than social choice firms. For the remaining per

formance variables, social choice firms, compared to nonsocial choice firms, had a greater median change in revenues from 1996 (9.0% compared to 5.9%); larger profits (\$717 million compared to \$423 million); change in profits from 1996 (13.3% compared to 9.1%); total 1997 return to investors (43.6% compared to 25.5%); market value of firms (\$17,914 million compared to \$10,942 million); and assets at year end (\$15,475 million compared to \$11,544 million). In the aggregate, however, the robust stock market returns are clearly reflected in the performance data for the 270 firms.

Exhibit 3 presents the rank correlation analysis. Approximately one-half of the performance variables were

related to CEO compensation. And all of the significant correlations were positive, indicating a direct relationship between CEO compensation and corporate performance as measured by the performance variables used in this study.

For CEO salary and bonus, the performance variables which were significantly correlated for both social choice firms and nonsocial choice firms were: 1997 revenues, 1997 profits, total 1997 return to investors, market value

Exhibit 2 Descriptive Statistics

SOCIAL CHOICE COMPANIES

<i>Compensation</i>	<i>Mean</i>	<i>Median</i>	<i>Range</i>
CEO Salary and Benefits	\$2,709,125	\$2,145,500	\$548,000 - \$11,274,000
Long-Term Compensation	\$8,210,212	\$1,725,000	\$0 - \$223,272,000
Total Compensation	\$10,919,340	\$4,480,500	\$558,000 - \$230,725,000
% Change from 1997 in Compensation	14.5%	11.5%	-68.0% - 241.0%

Performance Variables

Revenues (millions) for 1997	\$12,499	\$7,922	\$2,811 - \$53,261
% Change in Revenues from 1996	18.1%	9.0%	-53.9% - 200.5%
Profits (millions) for 1997	\$1,192	\$717	-\$931 - \$6,945
% Change in Profits from 1996	26.3%	13.3%	-475.5% - 1341.7%
Profits as a % of Revenues	9.3%	9.0%	-18.6% - 30.4%
Profits as a % of Assets	6.1%	4.9%	-34.5% - 24.4%
Profits as a % of Equity	16.9%	17.8%	-374.6% - 118.9%
Total Return to Investors (1997)	41.9%	43.6%	-45.2% - 120.7%
Market Value of Firm (millions)	\$31,687	\$17,914	\$4,169 - \$199,046
Assets (millions) at End of 1997	\$51,191	\$15,475	\$1,998 - \$386,555
Number of Employees (#)	47,634	32,159	3,869 - 296,000

NON-SOCIAL CHOICE COMPANIES

<i>Compensation</i>	<i>Mean</i>	<i>Median</i>	<i>Range</i>
CEO Salary and Benefits	\$2,207,873	\$1,796,000	\$100,00 - \$18,031,000
Long-Term Compensation	\$5,150,012	\$1,800,500	\$0 - \$97,657,00
Total Compensation	\$7,357,886	\$3,765,500	\$298,000 - \$106,790,000
% Change from 1997 in Compensation	145.2%*	14.0%	-55.0% - 20392.0%*

Performance Variables

Revenues (millions) for 1997	\$12,846	\$8,774	\$2,734 - \$122,379
% Change in Revenues from 1996	15.0%	5.9%	-34.3% - 335.7%
Profits (millions) for 1997	\$799	\$423	-\$1,497 - \$8,460
% Change in Profits from 1996	33.4%	9.1%	-712.3% - 2765.1%
Profits as a % of Revenues	6.2%	5.8%	-32.4% - 19.2%
Profits as a % of Assets	5.0%	4.3%	-12.1% - 21.4%
Profits as a % of Equity	14.7%	15.3%	-87.4% - 44.8%
Total Return to Investors (1997)	26.8%	25.5%	-52.4% - 109.8%
Market Value of Firm (millions)	\$20,993	\$10,942	\$3,986 - \$260,147
Assets (millions) at End of 1997	\$23,035	\$11,544	\$1,852 - \$304,012
Number of Employees (#)	46,903	33,200	3,738 - 276,000

* If Republic Industries is deleted, the mean becomes 20.2% and the new maximum percentage change is 451%.

Exhibit 3
Summary of Correlation Coefficients¹

SOCIAL CHOICE COMPANIES

<i>Performance Variables</i>	<i>CEO Salary and Bonus²</i>	<i>Long-Term Compensation²</i>	<i>Total Compensation²</i>
Revenues (millions) 1997	0.3391 **	0.2807 **	0.3005 **
Revenues % Change from 1996	0.3143 **	0.2160 **	0.2356 **
Profits (millions) 1997	0.3208 **	0.3286 **	0.3454 **
Profits % Change from 1996	0.1017	0.0072	0.0155
Profits as a % of Revenues	0.1288	0.1578	0.1633 *
Profits as a % of Assets	-0.1387	0.0673	0.0537
Profits as a % of Equity	0.0614	0.0617	0.0649
% Total Return on Investment (1997)	0.2672 **	0.1596	0.1771 *
Market Value of Company (millions)	0.2184 **	0.3111 **	0.3199 **
Assets (millions) 1997	0.5692 **	0.4041 **	0.4393 **
Number of Employees (#)	0.0169	0.0133	0.0143

NON-SOCIAL CHOICE COMPANIES

<i>Performance Variables</i>	<i>CEO Salary and Bonus</i>	<i>Long-Term Compensation</i>	<i>Total Compensation</i>
Revenues (millions) 1997	0.1895 **	0.1391 *	0.1594 *
Revenues % Change from 1996	0.0072	-0.0386	-0.0347
Profits (millions) 1997	0.2148 **	0.1617 **	0.1845 **
Profits % Change from 1996	0.0113	-0.0517	-0.0461
Profits as a % of Revenues	0.0976	0.0686	0.0793
Profits as a % of Assets	0.0763	0.3620	0.0458
Profits as a % of Equity	0.1425 *	0.0178	0.3940
% Total Return on Investment (1997)	0.1821 **	0.1089	0.1302 *
Market Value of Company (millions)	0.2814 **	0.2478 **	0.2750 **
Assets (millions) 1997	0.2452 **	0.1089	0.1404 *
Number of Employees (#)	0.1597 **	0.0740	0.0942

* Significant at .05 level

** Significant at .10 level

¹ A correlation coefficient can range from -1 to +1, with a negative number indicating an inverse relationship and a positive number a direct relationship.

² Compensation is in thousands when calculating these correlations.

of the firm, and assets at 1997 year end. Five performance variables were significantly correlated to total compensation for both social choice firms and nonsocial firms: 1997 revenues, 1997 profits, total 1997 return to investors, market value of firm, and assets at 1997 year end. Three variables remained significant for all CEO compensation categories (salary and bonus, long-term compensation, and total compensation) for both social choice and nonsocial choice categories: 1997 revenues, 1997 profits, and market value of the firm. These significant positive correlations indicate that the higher the revenues, profits and market value of the company, the higher the CEO's compensation for both social choice and nonsocial choice firms. These positive correlations make sense – the higher the revenues, profits and market value, the larger the company, and the responsibilities and duties of the CEO. The corporate performance variables for the social choice firms, in general, had a higher positive correlation between CEO salary

and bonus, long-term compensation, and total compensation than did the nonsocial choice firms. These results indicate that social choice firms compensate their CEOs more consistently with performance measures than do nonsocial choice firms.

The results of the regression analysis are presented in Exhibit 4. Panel A presents the results for social choice companies while Panel B presents the results for the nonsocial choice companies. The regression models include the nine performance variables that were significantly correlated with at least one of the compensation variables for either social choice or nonsocial choice firms.

Examination of the R² of the regressions is insightful. Prior to that examination, however, recall that R² is a measure of the proportion of the total variation in the dependent variable (CEO compensation) explained by the regression of the independent variables (the performance variables). An R² of 0 would mean that the regression

Exhibit 4
Regression Analysis

PANEL A – SOCIAL CHOICE COMPANIES

<i>Variables</i>	<i>CEO Salary and Bonus</i>	<i>Long-Term Compensation</i>	<i>Total Compensation</i>
Revenues	0.027	- 0.019	0.008
Revenues % Change from 1996	7.883	50.496	58.378
Profits (millions) 1997	- 0.103	-1.108	- 1.210
Profits as a % of Revenues	- 17.238	- 478.238	- 495.476
Profits as a % of Equity	4.053	52.428	56.481
% Total Return on Investment (1997)	12.357	71.798	84.155
Market Value of Company (millions)	0.007	0.238 **	0.244 **
Assets (millions) 1997	0.012 *	0.107 *	0.119 *
Number of Employees (#)	- 0.005	- 0.047	- 0.052
Number of Observations	104	104	104
F Value	6.66 *	3.32 *	3.98 *
R ²	0.390	0.241	0.276

PANEL B – NON-SOCIAL CHOICE COMPANIES

<i>Variables</i>	<i>CEO Salary and Bonus</i>	<i>Long-Term Compensation</i>	<i>Total Compensation</i>
Revenues	0.018	0.064	0.083
Revenues % Change from 1996	- 0.067	- 15.047	- 15.115
Profits (millions) 1997	- 0.571	- 1.995	- 2.566
Profits as a % of Revenues	- 0.846	150.640	149.794
Profits as a % of Equity	24.510	- 42.610	- 18.100
% Total Return on Investment (1997)	6.425	21.866	28.292
Market Value of Company (millions)	0.022 *	0.164 *	0.187 *
Assets (millions) 1997	0.009	- 0.016	- 0.007
Number of Employees (#)	0.000	- 0.021	- 0.021
Number of Observations	166	166	166
F Value	2.37 *	1.55 *	1.83 **
R ²	0.120	0.082	0.095

* Significant at .05 level, two-tailed test

** Significant at .10 level, two-tailed test

Exhibit 5
Regression Analysis

PANEL A – SOCIAL CHOICE COMPANIES

<i>Variables</i>	<i>CEO Salary and Bonus</i>	<i>Long-Term Compensation</i>	<i>Total Compensation</i>
Market Value of Company (millions)	0.006	0.159 *	0.165 *
Assets (millions) 1997	0.014 *	0.105 *	0.120 *
Number of Observations	104	104	104
F Value	25.2*	13.82 *	16.40 *
R ²	0.333	0.215	0.245

PANEL B – NON-SOCIAL CHOICE COMPANIES

<i>Variables</i>	<i>CEO Salary and Bonus</i>	<i>Long-Term Compensation</i>	<i>Total Compensation</i>
Market Value of Company (millions)	0.014 *	0.107 *	0.122 *
Assets (millions) 1997	0.007	- 0.016	- 0.009
Number of Observations	166	166	166
F Value	8.01 *	5.49 *	6.71 *
R ²	0.090	0.063	0.076

* Significant at .05 level, two-tailed test

** Significant at .10 level, two-tailed test

model does nothing to help explain the variation in the executive compensation while an R^2 of 1 would indicate that the model explains all the variation in executive compensation. When the R^2 from the regressions for the social choice firms are compared to the R^2 from the regressions of the nonsocial choice firms, the R^2 for the social choice firms is consistently greater. The regression model for social choice companies is more explanatory for all three dependent variables: CEO salary and bonus, long-term compensation, and total compensation. This indicates that the compensation of executives is more closely associated with the performance measures for the social choice firms than for the nonsocial choice firms.

To further explore this relationship between explanatory power of the regressions and the performance variables another series of regressions were generated which only included the performance variables found significant in the multivariate models. The results of these regressions of the market value and assets of the company on the compensation variables are presented in Exhibit 5. These results are consistent with those found in Exhibit 4. The market value of the company is statistically significant and positively related to executive compensation in all the models for both social-choice and non social-choice firms. In addition, for the social-choice firms only, the assets of the firm are significant and positively related to all three measures of executive compensation. Greater explanatory power is also found in these regressions with the social-choice R^2 more than three times greater than the non social-choice R^2 .

Summary

The compensation levels of CEOs at social choice firms were found to be more highly associated with size and performance variables than those at nonsocial choice companies. The results indicate that social choice companies may be more concerned with social justification for high CEO compensation. Social choice firms appear to validate CEO compensation levels by providing greater linkages to corporate performance. Readers presently investing (or contemplating future investments) in social choice firms or in social choice mutual funds should be encouraged by this study. In addition to their other good corporate deeds, social choice companies, consciously or unconsciously, seem to include CEO compensation levels as a part of their overall corporate decision process. ■

Notes

1. The authors acknowledge the possibility that a firm may not be included in the social choice fund portfolio as of December 31, 1997 and yet may have met the TIAA-CREF social choice criteria. If that were the case, the firm would be "misclassified." However, any such misclassification would reduce the likelihood of finding any differences between the two groups.

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Developing and Managing Corporate-Academic Alliances

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Abstract

Strategic alliances between academic and corporate partners can provide exceptional benefits and reveal new opportunities for shared value. Benefits and opportunities include alternative sources of funding to support academic programs, more effective and efficient matching of students with prospective employers, applied research for faculty, innovative and mutual learning environments, and improved business practices. The focus of this paper will describe how three corporate-alliance relationships with Northern Illinois University's College of Business were initiated and developed. Other schools and companies looking to develop similar relationships may hopefully benefit from the College of Business's experience. Moreover, corporate and academic alliances provide a potentially rich area of research.

Introduction

Over the past three years, Northern Illinois University's College of Business has initiated and developed several strategic alliances with a number of different corporate partners. Moreover, the value of these new relationships has become part of the overall strategic mission for the College of Business in order to create and sustain a win-win-win situation for corporate partners, faculty, and—most importantly—the students.

A corporate-academic alliance can provide mutual benefits and unique opportunities for a myriad of stakeholders. For example, a strategic alliance with an academic institution can provide a corporate partner with an on-campus presence and a subsequent advantage for accessing and attracting the brightest and best students for employment. Given the high demand for employees in such areas as the information systems field, the successful recruitment of new employees can have a major impact on the company's strategic direction and competitive position. Moreover, a close relationship with an academic institution's faculty can provide a valuable resource for new ideas and new perspectives for identifying and solving critical business problems.

On the other hand, a strategic alliance with a corporate

...these new relationships [can] create and sustain a win-win-win situation for corporate partners, faculty, and—most importantly—the students.

partner can be extremely valuable to an academic institution. Key relationships with a business partner can open doors for research opportunities and insight into new and innovative business practices. Much of this insight and experience gained by the faculty member can broaden and enrich the classroom environment. In addition, relationships with corporate partners can provide a resource for guest speakers who can relate cutting-edge business practices and perspectives not available in books, articles, or other forms of mass media. Aside from financial support in terms of scholarships, computer labs, professorships, aesthetic upgrades, and so forth, corporate partners may sponsor student projects. These projects can provide students with unique experiences to work on stimulating, real projects. Based upon our experience with past projects, we believe that corporate-sponsored projects have heightened the students' problem-solving skills, expanded their tolerance for ambiguity, and encouraged them to polish their social and presentation skills, especially when the presentation of their semester project includes the corporate sponsor. Furthermore, having close contact with an academic institution's corporate partners allows the students to make better-informed career decisions since they have more insight into the company's culture, its people, and its way of doing business.

The remainder of this paper is divided into four sections. First, we provide a review of the literature in the area of strategic alliances. This discussion will provide a basis for understanding how alliances form and develop. Next, we provide an overview of Northern Illinois University's College of Business and three of its corporate alliance partners. In the third section, we provide a

discussion of how these relationships formed and developed. We then relate the College of Business's experience to the existing base of literature on strategic alliances and present a framework for understanding the corporate-academic alliance in terms of the processes and mapping of activities that support the relationship. Finally, the last section of the paper focuses on providing direction and insight for other academic institutions and companies to form their own corporate-academic alliances.

Literature Review

Strategic alliances are organizational arrangements in which two or more separate organizations combine resources and knowledge to pursue a common interest (Borys and Jemison 1989). These arrangements may include such things as mergers, acquisitions, joint ventures, licensing agreements, joint research and development initiatives, and other new business associations. Common motivations for forming alliances include financial and technology factors such as sharing costs, risks or uncertainty, complementary technologies, new technologies, as well as creating and expanding products, services, and markets (Gulati 1995; Mariti and Smiley 1983). Although strategic alliances have been around since the turn of the century when businesses formed joint ventures to exploit valuable natural resources, the number and rate of strategic alliances formed have increased over the last two decades (Mowery, Oxley and Silverman 1996).

Strategic alliances can generate competitive advantage when the alliance network's boundaries and resources extend beyond those of the individual firm (Dyer and Singh 1998). Moreover, studies suggest that increases in value chain productivity and competitive advantage are possible when sovereign organizations are willing to partner and combine resources in unique ways (Anasuma, 1989; Dyer 1996, Dyer and Singh, 1998). According to Dyer and Singh (1998) alliances that generate competitive advantage fall into four categories: (1) investments in relations-specific assets; (2) knowledge exchange through joint learning; (3) the combination of complementary, but scarce, resources or capabilities that results in the joint creation of unique new products, services, or technologies; or (4) lower transaction costs.

Although there appears to be a growing base of literature to explain the motivation for forming strategic alliances and their outcomes, Doz (1996) contends that there is a dearth of literature on the process or evolution of strategic alliances. Using a longitudinal case study of six alliance projects, Doz proposes a framework to understand the evolution of cooperation in strategic alliances. His findings suggest that alliance projects follow iterative and evolutionary learning cycles with subsequent reevaluation and readjustment. Initial conditions, in terms of task definition, partners' organizational routines, interface structure and partner expectations, may

facilitate or hamper partner learning with respect to environment, task, process, skills and goals. These learning cycles may cumulate over time and ultimately influence the success or failure of the alliance project.

For successful alliance projects studied, Doz (1996) reports that learning cumulated over time and allowed the initial

***...direction and insight [is provided]
for other academic institutions and
companies to form their own corpo-
rate-academic alliances.***

alliance to improve and expand as trust and cooperation between the alliance partners increased. Subsequently, the partners became more willing to make irreversible commitments to the alliance, and their expectations concerning alliance efficiency, equity, and adaptability led to positive reevaluations.

On the other hand, Doz (1996) describes the unsuccessful alliance projects as highly inertial. Moreover, learning was either absent or divergent. Even if the partners knew what was needed to make the alliance project succeed, they did not know how to make it happen. Moreover, lower expectations, suspicion and frustration between the alliance partners led them to question the potential value of the relationship. Subsequently, this led to lower commitment and the ultimate failure of the alliance project.

Kanter (1994) also focuses on the alliance relationship process; however, she describes the relationship between companies as being similar to relationships between people. Based upon 500 interviews from more than thirty-seven companies and their partners throughout the world, Kanter outlines three fundamental characteristics of business alliances. First, the alliance must provide mutual benefits for each partner beyond the original conditions for entering into the alliance. Moreover, the alliance must continue to evolve from its original form in order to provide opportunities in the future. Secondly, to be successful, both partners must create new value based on collaboration rather than just through exchange. Lastly, alliance relationships cannot be controlled through formal systems, but must be developed and sustained through a web of interpersonal networks.

Kanter (1994) suggests "Relationships between companies begin, grow, and develop—or fail—in ways similar to relationships between people." Although no two alliances are the same, the relationship process for successful alliances tends to follow five overlapping phases. Kanter describes the first phase as the courtship phase, where two potential alliance partners discover each other and investigate their compatibility and mutual

interest. The second phase—or the engagement—focuses on developing plans for the future. Subsequently, phase three is when the newly partnered organizations set up housekeeping similar to newly partnered couples. Here the partners may discover idiosyncratic things about each other that they may have overlooked or chosen to overlook during the earlier phases of the relationship. To bridge these potential differences, the fourth phase focuses on developing ways for working together and getting along. Finally, phase five is described as the “old-marrieds,” where each partner discovers that they have changed internally as a result of the ongoing relationship.

Three Corporate-Academic Partnerships

In this section, we provide a brief overview of Northern Illinois University’s College of Business and three companies that have entered into an alliance with the College of Business.

Alliances

Northern Illinois University–College of Business

Northern Illinois University was established in 1895 and is located about sixty miles west of downtown Chicago in a small, rural community. The College of Business along with seven other colleges serves over 25,000 full and part-time students. The College of Business has over 4,000 business students with approximately 800 graduate students and 3,200 undergraduates. Among the five departments in the College of Business, the Department of Operations Management and Information Systems (OMIS) has been a springboard for several corporate-academic relationships that have grown into strategic alliances over time.

Ernst & Young, LLP

Ernst & Young (EY) is a \$10.9 billion professional organization that includes audit, tax and consulting professional services with 85,000 employees in 132 countries. Ernest & Young LLP is the U.S. member firm of Ernst & Young International, Ltd., and has 30,000 employees in eighty-seven U.S. cities.

The consulting office located in Chicago, Illinois recruited a number of College of Business students as interns in the summer of 1997. One particular group of interns was assigned to work in the firm’s Advanced Development Center (ADC). An EY manager in charge of these interns approached the College of Business with the idea that perhaps these interns could expand the work of a project that had been initiated by a College of Business faculty member.

The project initiated by the College of Business faculty member was the creation of a fictitious company that manufactures and sells products and services over the World Wide Web. Along with an Internet site to support electronic

commerce, the project also included a corporate intranet and a series of interactive hands-on case assignments. The project has been called the “Virtual Organization” and was integrated into an introductory Management Information Systems (MIS) course.

The goal of the interns’ project was to refine and expand this work. Working with the College of Business faculty member who initiated this project and using ADC resources, the interns took the fictitious company to a new level of sophistication that would have been a practical impossibility for the professor to achieve alone due to time and resource constraints.

At the end of the summer, the Virtual Organization interns

...the interns took the fictitious company to a new level of sophistication that would have been a practical impossibility for the professor to achieve alone due to time and resource constraints.

demonstrated their project to other interns, managers, and partners at EY. Their work was well received. After their presentation, an EY partner asked when the Virtual Organization project would be implemented into the introductory MIS class. The partner was informed that use of this application would be delayed indefinitely because the project was technically more advanced than the university’s current level of software and hardware sophistication. EY’s managers and partners were so favorably impressed by the students’ work that they made the decision to donate a Windows NT™ Web server along with the technology and expertise needed to implement the system for the College of Business.

The donation of the Web server allowed the OMIS department and the College of Business to create the Business Information Technology Transfer Center (BITTC). The mission of the BITTC is to provide a conduit for transferring projects, technology, and expertise to a team of students working on an authentic information technology project sponsored by a partnering company. At the end of the project, the student team is expected to transfer a project application that will have business value back to the sponsoring organization. A faculty member and a corporate sponsor guide the students; however, the students must take ownership of the project by defining the project goals and deliverables. This allows the students to use the latest technologies and development methodologies in a nontraditional learning environment. The BITTC is supported primarily through resources provided by select business partners, or other business and academic professionals requesting managerial or technical assistance.

Wallace Computing Services (Wallace)

Wallace Computing Services, Inc. was founded in 1908 and is recognized as a leader in integrated supply management services for custom-printed and stock business supplies. Wallace is headquartered in Lisle, Illinois and is one of the nation's largest manufacturers and distributors of information management products with approximately 3,600 employees in twenty-five manufacturing and distribution facilities and 140 sales offices throughout the United States.

The relationship between Wallace and the College of Business

...the path to a strategic alliance was taken in small, incremental steps through several relationships...

began as a "coincidence of needs." Wallace management invited several members of the College of Business administration and faculty to an on-site meeting to discuss how the company could enhance its recruitment of top business students. A dialog was established and it became clear that mutual value could be gained by working together.

Although the enthusiasm generated at this meeting was a catalyst for initiating the relationship, the path to a strategic alliance was taken in small, incremental steps through several relationships nurtured among individuals in the College of Business and Wallace. These relationships focused on small, yet important, activities that brought Wallace employees and business faculty and students together. As a result of these activities, common interests could be identified so that other mutually beneficial activities and projects could be planned and implemented. For example, several Wallace employees were invited to speak to a student organization and a class. In turn, students were invited to tour the company. Although these activities did not require a major time commitment for either partner, they did, however, initiate the relationship and allow it to evolve.

As the relationship between Wallace and the College of Business grew, Wallace sponsored student internships and scholarships as well as a "Web Off" project between two graduate MIS classes in the fall of 1997. Student teams from both classes competed to develop a Web site to facilitate the company's on-campus recruiting efforts. Several individuals from Wallace presented the requirements of the project to the two classes on two different nights at the beginning of the semester. Key contact persons from Wallace were also available to answer student questions by email or telephone.

At the end of the semester, a team of Wallace judges viewed the Web site competition presentations. Moreover, the judges' evaluations played a part in determining the students' final

project grade. Overall, the students enjoyed working on the project because they were able to work on a project that would bring value not only to Wallace, but to their fellow students as well.

Wallace also sponsored the first two project-based classes under the BITTC. In the summer of 1998, a team of students comprised of three graduates and two undergraduates worked to develop a phone directory component for the company's corporate intranet. Wallace provided a Windows NT™ server, two workstations, network technology, and software development tools needed to create a development environment and a self-contained network that housed the company's entire intranet. The student team guided by an OMIS faculty member and two Wallace employees delivered the application to the company at the end of the summer.

In the fall of 1999, Wallace sponsored a second project under the BITTC. A team of one graduate and four undergraduate students evaluated the company's entire corporate intranet in terms of content and maintainability. Since the technology was already in place within the BITTC, Wallace was able to gain additional business value from their partnership by leveraging this second project. At the end of the summer, the team presented their ideas and suggestions to a group of managers and MIS developers.

The students, Wallace, and the College of Business consider both projects a success. The student evaluations at the end of each class/project expressed that this was the best learning experience that they have had at Northern Illinois University. Moreover, the students gained valuable experience with technology and an environment that could not have been completely replicated in a traditional classroom environment. Furthermore, the development of a closer relationship between Wallace and the College of Business has led to two research projects and a place for one Wallace manager on the College of Business Executive Advisors' Board and a place for another manager on the OMIS Advisory Board. More importantly, Wallace has been able to establish a presence on campus that has allowed them to recruit several top students. In the past, these students may have only considered larger, higher profile companies.

Siemens Business Communications Systems

Siemens Business Communications Systems (Siemens) is a part of Siemens AG, a Germany-based firm with revenues from operations around the world of over \$63 billion. Siemens has approximately 5,700 employees and designs, manufactures, installs, and services office communication equipment in the US. Currently, Siemens has seven business units and manufacturing sites located throughout North America.

The alliance between the College of Business and Siemens began similarly to the relationship that developed between Wallace and the College of Business.

Siemens was interested in improving its recruiting efforts in order to attract top business students. With the experiences gained from the Wallace alliance, critical but small steps were again taken to build relationships among several individuals in the company and the College of Business. First, guest speakers from Siemens were invited to talk to student classes and organizations. Soon thereafter, Siemens donated a PictureTel™ videoconferencing system and sponsored a class project in a graduate MIS class.

Student teams in the graduate MIS class were asked to

...the managers from Siemens...believed that the student projects gave them valuable insight and creative ideas for solving a particular scheduling problem.

develop a prototype for a practical solution that could meet a genuine, current need for Siemens' personnel and operations. Similar to the Wallace Web Off project, several of Siemens' managers presented their requirements to the class early in the semester. Students used the PictureTel system, email, and a phone messaging system set up by the company to refine the scope and requirements of the project.

At the end of the semester, the company flew in several managers from around the U.S. for the student team presentations, thus adding to the validity and the importance of this project. Once again, the managers judged the presentations, and their evaluations were used to partially determine the students' final project grades.

The student reactions to the project were somewhat mixed. Some students enjoyed working on a project that extended their problem-solving skills and that would have direct benefit to the company. On the other hand, some students did not feel comfortable working outside the traditional classroom environment, especially when they had to deal with the ambiguities inherent with working with an end user/client in order to define the requirements of a system.

One student, however, had mixed feelings, but expressed a more positive attitude about the project after the semester ended. Interestingly, when this student explained his project experience to several campus recruiters, the recruiters expressed enthusiasm for his experience. The student remarked that the recruiters' interest and enthusiasm then led him to become more enthusiastic about his experience as well.

However, the managers from Siemens perceived that the project experience was positive. Moreover, they believed that the student projects gave them valuable insight and creative ideas for solving a particular scheduling problem. A next step for the relationship was planned whereby Siemens and the MIS professor would sponsor a project under the BITTC. A single team of students would take the prototypes developed in the MIS graduate class and use them as a springboard for developing a

more refined application. Unfortunately, Siemens went through a major reorganization shortly after the semester ended. This reorganization displaced several key personal relationships between the organization, and the project under the BITTC never materialized. The partnership between Siemens and the College of Business subsequently sputtered and never progressed past this initial state.

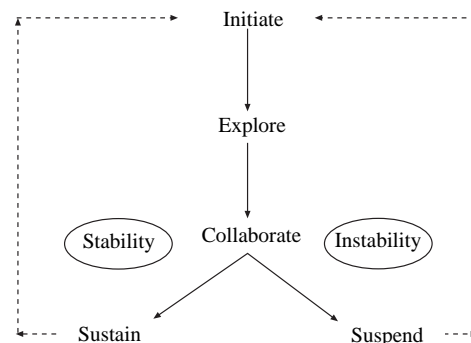
Creating and Sustaining the Alliance Relationship

Based upon the experiences of the College of Business and its alliance partners, the key to creating and sustaining an alliance relationship is the interpersonal relationships between individuals at different levels within the organizations. Although, Kanter (1994) suggests that business alliances are similar to courtships, engagements, and so forth, we believe that academic-corporate alliances are similar to friendships. The marriage analogy used by Kanter may be a bit too strong for describing academic-corporate alliances because the relationships may not be overly committed to one single partner, and the relationships between the College of Business and a partner may exhibit varying levels of intensity over time. However, the process of initiating and sustaining a relationship between an academic and corporate partner seems to follow a cycle as suggested by Doz (1996). These ideas are reflected in Figure 1.

Initiating and Developing an Alliance

The model in Figure 1 suggests that an academic and corporate partner may enter into an alliance relationship through an initiating stage. In this stage, the two potential partners meet to determine whether mutual interests between the two organizations exist. From the experi

Figure 1
Alliance Relationship Process Model



ences of the College of Business, this has usually included one or two individuals from each organization establishing a personal relationship; however, an alliance may cease to exist if, for example, a key individual leaves one of the organizations. Therefore, it is important that a number of individuals from multiple levels within both organizations become involved in the alliance relationship.

Meetings and social gatherings can be an effective means for people to explore and discover mutual interests. In the second stage, people from both organizations should attempt to identify one or two ways in which to collaborate. Enthusiasm may lead to a number of exciting ideas, but too many activities too soon may dilute the focus and interests of the partners. Our experience suggests that small, incremental activities may be the best way to start in order for the alliance partners to become familiar, comfortable, and trusting of one another.

Once an activity is defined, the academic and corporate partners collaborate or work together to create mutual value. It is important that academic partners not view a corporate partner as an exclusive source of soft money resources. Similarly, the corporate partners should not view an academic partner as an employment agency for hiring students or as a faculty-based consulting firm.

This third stage is the most critical for either sustaining or suspending the relationship. When the academic and corporate partners collaborate, they will go through a learning process that will allow each partner to evaluate the value they receive from the relationship. Positive learning and evaluations as well as the strength and depth of interpersonal relationships may increase the stability of the alliance relationship. Subsequently, this should motivate each partner to sustain the relationship and initiate new activities and relationships, thereby increasing the depth, breadth, and maturity of the alliance over time.

On the other hand, poor learning experiences, negative evaluations, and weak interpersonal relationships between the partnering organizations may lead to decreased stability. Subsequently, this may lead to one or both partners suspending the relationship. For example, in the case of the Siemens alliance the partnership was suspended not because of the learning experience or the evaluation, but because of organizational changes that created an unstable relationship.

Figure 1 also suggests that the stability of an alliance may change. For example, two alliance partners may initiate, explore, and collaborate on a number of activities over time. In the beginning, organizational learning and positive evaluations may lead to a sustained and stable relationship. However, if later collaborative activities are negatively evaluated or engage fewer key individuals, then the alliance may become less stable and future activities may become suspended.

Conversely, an unstable alliance could get back on track by starting over if each partner feels that the initial motivating conditions for the alliance are still valid. Individuals from each

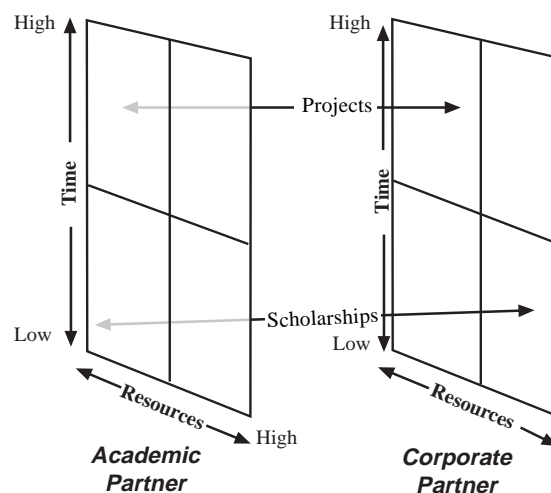
organization could once again explore and choose collaborative activities that would make the alliance more stable. Therefore, the choice of activities is an important consideration for creating and sustaining the alliance.

Alliance Activities

Figure 2 illustrates an alliance-space mapping of activities that may be thought of as a three-dimensional space between an academic and corporate partner. As implied in Figure 2, each partner must have an ability and desire to make a specific level of resource commitment in terms of time (i.e., people) and resources (e.g., money, technology, expertise, etc.) to the alliance.

The mappings in the alliance-space provide a means for understanding the level and commitment of activities between

Figure 2
Alliance-Space Activity Mapping

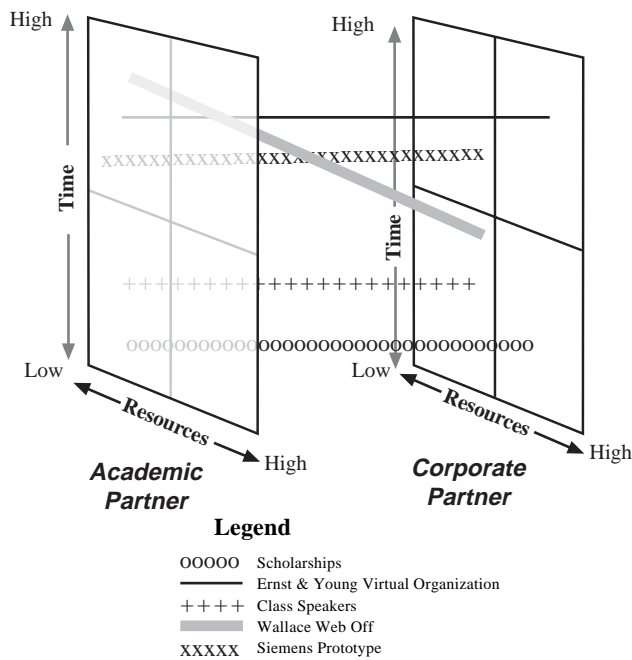


the academic and corporate partner. For example, scholarships may require and provide a high level of resources for the corporate and academic partner, respectively. However, scholarships generally do not require a great deal of time or people to support this activity.

On the other hand, a corporate-sponsored project may require a higher commitment of time and resources for both the academic and corporate partner. Different activities, such as guest speakers, research projects, company tours, and so forth can have different time/resource requirements for either partner and may allow for different individuals in both organizations to become involved in various ways over time.

Over time, various activities can be mapped to determine the breadth and depth of the alliance relationship.

Figure 3
Potential Activity Mapping



To demonstrate this idea, Figure 3 provides an example of an alliance-space mapping between a corporate and academic partner.

As illustrated in Figure 3, a number of activities can take place between the two alliance partners. If two partners are just entering into a relationship, they may want to explore and choose activities that do not require a great deal of time or resources. This may allow them to learn and become more familiar with one another. As the partnership continues and increases in stability, the partners may explore and choose activities that require greater commitment with the confidence that these activities have a greater likelihood of returning mutual value.

This may have been the problem with the Siemens alliance where the College of Business and Siemens engaged in a project activity that required a great deal of commitment from too few key individuals. If this alliance were to start up again, it may be a good idea to choose activities in the alliance-space mapping that would engage a number of individuals from both organizations at various levels in order to increase the stability of the relationship.

Conclusion

In summary, a set of common interests between the alliance partners can lead to activities that provide mutual benefits to

both academic and corporate partners. The stages or processes that alliance partners follow can influence the stability and sustainability of the relationship over time. Mapping the activities between the academic and corporate partners can help assess the maturity of the relationship as well as strategize what activities the alliance partners should undertake. For example, partners may choose not to engage solely in low time/high resource activities for this may lead to one partner benefiting more than the other. On the other hand, high time/high resource projects may be problematic if the alliance relationship has not matured to a point where both partners are comfortable and familiar with each other. Moreover, the activities between the alliance members can be mapped to identify new opportunities or to jump-start the relationship.

Academic and corporate alliances can provide tremendous benefits to the partnering organizations and the students. The ties between an academic institution and corporate partner provide the potential to create new opportunities for teaching, research, improving business practices, and enhancing the education of students. However, unless each partner can enter into value-added activities the alliance is not worth undertaking or will become less stable over time.

Although we have described three alliance relationships, Northern Illinois University's College of Business is currently cultivating similar relationships with other companies. The process model and alliance partner mapping models will be useful for understanding each relationship and offer an interesting opportunity for continued research in the areas of corporate-academic alliances and traditional corporate alliances as well.

In conclusion, the alliances with the College of Business have provided new opportunities for firms, faculty, and students that we believe create a win-win-win situation. Hopefully, other schools and companies looking to develop similar relationships may benefit from this experience. ■

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Student Perceptions of Sales Careers: Implications for Educators and Recruiters

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Abstract

While sales careers offer tremendous job potential, they are frequently overlooked by graduating college students. Previous research suggests that negative sales stereotypes have influenced students' desire for sales careers. In this paper we revisit student attitudes toward sales careers to identify student segments most likely to have positive and realistic views of sales careers. We found that marketing majors or students who have taken two or more sales classes view sales careers more positively than other business students. Non-marketing majors or students exposed to sales careers either through internships/work experience or having family members in sales did not exhibit positive attitudes toward sales. We also observed some interesting gender differences on attitudes toward sales. We suggest that corporate recruiters may want to focus their recruiting efforts on marketing majors or students who have taken sales classes to identify students with positive and realistic views of sales careers: resulting in better employee-task fit, lower job turnover, and reduced costs of recruitment.

Introduction

Researchers have long been concerned with negative attitudes toward selling and sales careers and the subsequent impact these perceptions have on college students being recruited for sales positions. According to Cron's (1984) study of the career stages of the industrial salesperson, people in the exploration stage of their career—which typically includes college students—are most concerned with finding an appropriate match between their skills, aspirations, and the job requirements. Cron goes on to note, however, that “most people take an entry level job with only a vague idea about the skills and abilities that are required. (p.44)” If, as is in the case of sales, these “vague ideas” are inaccurate misperceptions about the activities, skills, and ethics of a sales career, the job of the corporate recruiter on a college campus is a challenging one indeed.

The purpose of this research is to explore how different college student segments perceive sales careers with the hope of identifying the segment or segments of the student population

***...identifying college graduates
predisposed towards sales careers
is critical for corporations.***

who might be more likely to pursue sales as a career choice. While previous research has examined perceptions of business students in general (Amin, Hayajneh and Nwakanma 1995; Cook and Hartman 1986; Stevenson and Paksoy 1983), our research examines the perceptions of business students who have had the most exposure to sales: marketing majors, students who have taken two or more sales courses, and students who have had exposure to sales via relatives or a sales job/internship. While it would seem almost obvious that marketing majors and sales students would be more highly recruited for sales positions, a recent review of the National Association of Colleges and Employers (NACE) web site revealed that only 9 percent of the sales positions specifically required marketing majors. Yet identifying college graduates predisposed towards sales careers is critical for corporations. First, individuals with accurate knowledge about sales careers are more likely to find satisfaction in sales jobs and consequently, stay in selling, thus reducing employee turnover costs for the firm (Cron 1984). But employee turnover in sales positions is even more crucial than most jobs because of the sales representative's relationship with the customer. To build customer relationships, the company needs sales representatives who remain in sales positions; it is difficult, if not impossible, to build customer relationships if the company sales representative is constantly changing. Therefore it is important for corporate recruiters to be able to accurately identify college students who are more predisposed towards sales careers and are therefore most likely to remain in a sales position.

Of equal importance is the effect of classroom education on students' perceptions of sales stereotypes and subsequent sales careers. To adequately address the

influence of education, the sample was limited to seniors. It was felt that seniors would have had the most exposure to marketing and sales topics, and would therefore provide the most accurate data for comparison purposes. In addition, from the practical perspective, college recruiters interview seniors, not underclassmen, so it is most important to determine seniors' perspectives. Furthermore, a variable not influenced by classroom education—student exposure to selling via a sales internship/job or a family member involved in sales—is also examined to determine if sales knowledge acquired outside the classroom makes a difference on students' perceptions. If certain segments of the college student population can be identified as having more favorable perceptions of sales careers, college recruiters could more closely target their personnel search and academicians could learn if education is helping to alter negative perceptions of sales careers.

Negative Images of Sales Careers

Negative perceptions of salespeople and sales careers have long persisted on college campuses. As evident in early research titles like "I Didn't Raise My Boy to be a Salesman!" (Staunton 1958), salespeople were portrayed as pushy, deceitful men who "hate their prospects... whom they regard as their intellectual and cultural inferior," (McMurry 1961, p. 118). Not surprisingly, this negative stereotype was well entrenched in the minds of college students who, during the late fifties and through the early seventies, expressed negative attitudes towards selling as a career (Ditz 1967; Ebey 1957; Jolson 1972; Mason 1965; Paul and Worthing 1970; Thompson 1972). Furthermore, more recent research on student attitudes toward selling has found that students still maintain negative sales stereotypes (Weeks and Muehling 1987) and exhibit negative attitudes towards sales careers (Stevenson and Paksoy 1983). Even more recently, when asked to rank professions in order of trustworthiness, a current survey found that sales representatives ranked just slightly above elected officials and decidedly below professions such as teaching or medicine (Marks 1997).

The mass media has done little to dispel the stereotypical negative image of sales representatives. The same degrading, negative images of sales representatives found in Arthur Miller's play *Death of a Salesman* are equally apparent in David Mamet's more recent (1982) play, *Glengarry, Glen Ross*. In 1995, a new Broadway play, *Three Hotels*, featured a protagonist who climbs his way to the top of the corporate ladder by using unethical practices to sell baby formula. Clearly, in the mass media and in the minds of many individuals, negative stereotypes of sales representatives still persist.

Perhaps the one glimmer of hope that negative stereotypes are being replaced by more positive images is one study which reported that female students appeared to be more favorably

predisposed toward personal selling than male students (Muehling and Weeks 1988). While this positive result may have been due to the fact that the early sales stereotype was explicitly male, additional research on male and female perceptions of selling does not substantiate differences between the two genders in terms of sales careers (Amin, Hayajneh, and Nwakanma 1995; Cook and Hartman 1986).

Although it is reasonable to assume that business students would have a basic knowledge of sales careers, it is primarily marketing courses and sales courses which cover sales topics in depth. Unlike previous research, Weeks and Muehling (1987) and Muehling and Weeks (1988) used marketing majors in their sample. However, their sample was drawn from an "Introduction to Marketing" class student population where the topic of sales is just one of many topics to be introduced. Their sample too, may not have had more accurate sales knowledge than business students in general. Without an accurate understanding of selling, business students may be relying on sales stereotypes to evaluate a potential sales job.

Student Segments Likely to Have Positive Images of Sales Careers

Marketing Majors

It is reasonable to assume that, as compared to other majors, marketing majors would have more accurate knowledge and subsequently, more realistic and positive perceptions about selling as a result of classroom exposure and discussion. Almost every marketing principles textbook (Bearden, Ingram and LaForge 1995; Kotler and Armstrong 1998; and Solomon and Stuart 1997) begins with an emphasis on the marketing concept and the importance of the customer. Additional chapters on service, buyer behavior, and the personal selling component of the promotion mix all emphasize the value and importance of sales representatives to both the customer and the corporation. Furthermore, the topic of professional selling is likely to be discussed in a myriad of other marketing courses—such as promotions, industrial marketing, consumer behavior, services marketing etc.—which are taken by marketing majors. This knowledge should result in more positive perceptions of sales careers than those expressed by non-marketing business students who still may be basing their opinions on sales stereotypes.

Students Who Have Taken Sales Courses

As compared to those students who have not taken sales courses, those who have taken specific courses in personal selling or sales management should also have more accurate and positive images of sales careers. The consultative, relationship role of the sales representative

is emphasized early and throughout many sales textbooks (Gretz, Drozdeck, and Wiesenhutter 1996; Manning and Reese 1995; Marks 1997). Additional chapters on building customer relationships, providing customer service, and understanding customer needs all focus on the “partnering” aspects of sales. Consequently, students who have been exposed to selling via classroom experience may be less likely to hold onto negative sales stereotypes.

Exposure to Sales Careers Outside Classroom

In addition, some students may have more positive perceptions of selling due to their personal, first-hand knowledge of sales careers. Compared to students who are not acquainted with a sales representative on a personal basis, off-springs or siblings of sales representatives, for example, would have a first hand look at the personal and professional attributes needed to be successful in sales. Furthermore, in some cases, the student may admire the family member who makes his/her living as a sales representative and even aspire to follow their footsteps. Similarly, students who have had sales internships or who have had the opportunity to work in sales might be less likely to have negative stereotypes about sales careers because of their sales experience. Once again, this first hand knowledge should result in more accurate and consequently, more positive views of the sales profession which in turn, would encourage these students to pursue sales careers.

Gender Differences

It is not clear from the previous research if there are gender differences in the perceptions of sales careers. Are women likely to have positive images of salespeople as compared to men? However, it is likely that certain aspects of sales careers may be more positively viewed by males as compared to females. From recruitment and retention point of view, it would, therefore, be interesting to identify those dimensions of sales jobs where gender differences are significant.

By comparing senior marketing majors with non-marketing majors, seniors who have taken sales courses vs. those who have not taken sales courses, and seniors who have had previous exposure to sales vs. those who do not have such exposure, segments of students with positive perceptions of sales careers can be identified.

Based on these observations, we suggest the following research propositions:

1. Marketing majors will have more positive perceptions of sales careers than non-marketing majors.
2. Students who have taken two or more sales courses will have more positive perceptions of sales careers than students who have not taken any sales courses.
3. Students with prior exposure to sales careers via sales internships or jobs, or a close family member in sales, will

have more positive perceptions of sales careers than students without such a background.

4. There are significant differences in the perceptions of sales careers between male and female students.

...segments of students with positive perceptions of sales careers can be identified...this [can] increase efficiency for corporate recruiters [and] result in greater job satisfaction for newly hired college graduates...

By testing these research propositions, it is possible to identify segments of students with more positive perceptions of sales careers who are more likely to seek sales jobs and stay longer in sales positions. Not only would this segmentation approach increase efficiency for corporate recruiters, but it may also result in greater job satisfaction for newly hired college graduates, both of which ultimately benefit the company and its customers.

Methodology

A questionnaire was developed from surveys published in previous research on students and sales careers (Amin, Hayajneh, and Nwakanma 1995; Cook and Hartman 1986; Dubinsky 1981; Muehling and Weeks 1988; Tsalikis, DeShields, and LaTour 1991). The questionnaire items were refined based on the authors' experiences from teaching personal selling, experiences as sales representatives, discussions with students (both before and after employment in sales careers) and discussions with sales professionals. The survey was not designed to scale dimensions of professional selling, but rather to survey an overview of student perceptions of the different aspects of selling and sales professionals.

Sample items included questions on perceptions of sales careers in general—“sales is a career for me”—and perceptions of the skills necessary in sales careers—“to succeed in sales, one has to develop excellent human relations skills.” Questions assessing job-related factors included “sales is a highly prestigious career,” and “sales is a high pressure/high stress job.” Questions assessing perceptions of sales representatives included “most salespeople are honest,” and “salespeople are generally insincere about the concerns of the customer.” Following the survey items, personal information such as major, year in school, gender, and number of sales courses completed was collected. A five-point Likert-type scale was used with endpoint anchors: 5=“strongly agree” and 1=“strongly disagree.” The survey instrument was pre-tested to be certain there were no confusing or misleading questions and to verify that respondent “wear-out” was not an issue.

First Sample

The sample consisted of 306 seniors enrolled in the College of Business at a large Midwestern state university. Respondent profile is presented in Table 1. The sample was restricted to seniors to more accurately test the influence of sales and marketing knowledge on perceptions of sales careers. In addition, previous research looked at business students at all class ranks in general, yet college recruiters are predominately interested in seniors. Therefore, we felt it important to limit this sample to senior business students.

Table 1
Respondent Profile

<i>Respondents</i>	<i>Number</i>	<i>Percentage</i>
Total Senior Students	306	100%
Male	154	50.3%
Female	152	49.7%
Major		
Marketing	151	49.3%
Other	155	50.7%
Sales Background		
Worked full/part-time as salesperson	207	67.6%
Taken one or more sales course	225	73.5%
At least one family member in sales	184	60.0%

Within the sample, 151 (49.3%) were marketing majors (155 majored in other business areas), 225 (73.5%) had taken one or more sales courses (81 had taken no sales courses), 184 (60%) had previous exposure to sales careers via family members and 207 (67.6%) had previous exposure to sales careers via part-time or full-time sales jobs/internships. One hundred and fifty four students (50.3%) were male while 152 students (49.7%) were female.

Results

Marketing Majors versus Other Majors

Proposition 1 (Table 2) was supported in that as compared to other business students, marketing majors expressed more positive perceptions of salespeople and sales careers [Wilks' lambda (.664) was significant at the .000 level]. Senior marketing majors reported that "most salespeople are honest" (mean=3.19; others' mean= 2.59; p=.00). They disagreed that "to succeed in sales, one has to resort to unethical practices" (mean=1.60; others' mean=2.05; p=.00) and that "most salespeople try to trick you into buying something you don't really need" (mean=2.36; others' mean=2.95; p=.00). In addition, marketing majors expressed positive attitudes toward sales jobs. Marketing majors felt that "sales is a better paying job than other jobs available to business grad

Table 2
Comparison of Attitudes Towards Sales: Marketing versus Other Majors

	Mean rating on a 5-point scale		
	<i>Marketing Majors (n=151)</i>	<i>Other Majors (n=155)</i>	<i>Sig. t for difference in means</i>
Selling career is not for everyone, you have to be born with certain traits	3.43	3.75	0.003
Sales jobs are more suitable for men than for women	1.98	2.28	0.014
Sales is a career for me	3.58	2.25	0.000
It's easier to go to top, when you start as sales person	3.68	3.04	0.000
Sales is a better paying job than other jobs available to business graduates	3.32	2.61	0.000
Performance in sales depends on individual efforts	4.61	4.54	0.311
Sales is a highly prestigious career	3.17	2.57	0.000
Salespeople have lots of opportunities to move from one job to other	3.80	3.58	0.015
Sales is a high pressure, high stress job	3.92	3.88	0.691
Rewards in sales are not worth the efforts required to succeed	2.03	2.54	0.000
Salespeople do not have good family lives	1.88	2.25	0.000
Salespeople do not have much job security	2.48	2.90	0.000
Most sales people are honest	3.19	2.59	0.000
To succeed in sales, one has to resort to unethical practices	1.60	2.05	0.000
Salespeople keep their personal interest of making money over and above the interest of the customers they are supposed to serve	2.42	3.14	0.000
Salespeople are generally insincere about the concerns of the customers	2.35	2.79	0.000
Most salespeople try to trick you into buying things you really don't need	2.36	2.95	0.000
Most salespeople would take advantage of those who don't know much about buying things	2.56	3.27	0.000
To succeed in sales, one needs to have lots of persistence	4.32	4.27	0.602
Selling is for people who know how to talk	4.00	4.05	0.626
To succeed in sales, one has to develop excellent human relations skills	4.57	4.45	0.083

Note: 5=Strongly Agree, 1= Strongly Disagree

ates” (mean=3.32; others’ mean=2.61; p=.00), that “sales is a highly prestigious career” (mean=3.17; others’ mean=2.57 p=.00) and disagreed that “rewards in a sales career are not worth the efforts required to succeed in the profession” (mean=2.03; others’ mean=2.54; p=.00). Marketing majors perceive that “sales is a career for me” (mean= 3.58; others’ mean=2.25; p=.00).

Enrolled Sales Students versus Students without Sales Course Enrollment

We compared students who have taken two or more sales courses with those who have not taken any sales course. Proposition 2 (Table 3) was supported by the data [Multivariate statistical analysis Wilks’ lambda (.813) was significant at the .000 level]. Students who had taken two or more sales courses perceived that “most salespeople are honest” (mean=3.03; others’ mean=2.60; p=.00). They disagreed that “to succeed in sales, one has to resort to unethical practices” (mean=1.65; others’ mean=2.05; p=.005) and that “most salespeople would take advantage of those who don’t know much about buying things” (mean=2.80; others’ mean=3.30; p=.002). In addition students who had taken two or more sales courses believed that “it is much easier to advance to higher level management positions when you start your career as a salesperson” (mean=3.47; others’ mean=2.98 p=.001) and that “salespeople have lots of opportunities to move from one job to other”

(mean=3.83; others’ mean=3.54 p=.02). Like marketing majors, students who had taken two or more sales courses felt that “sales is a career for me” (mean=3.52; others’ mean=2.02; p=.00).

Since a large number of marketing majors have taken two or more sales courses, we tested if the difference between students who have taken two or more sales courses and those who have not taken sales courses is due to their being a marketing major. We compared marketing majors who had taken two or more sales courses with non-marketing majors who had taken in two or more sales courses. We did not find any significant differences at 0.01 level. Therefore, we can say that the differences that we report here are due to the sales courses taken and not due to their major.

Students with Previous Sales Exposure versus Students without Sales Exposure

Students with previous sales exposure via family or sales job/internship experience did not differ significantly from students with no such exposure in terms of their perceptions of sales careers [Wilks’ lambda = .921; p=.303, univariate t-tests were not performed]. Therefore proposition 3 was not supported by the data. Interaction between the two variables—students with/without sales exposure and students with/without sales courses—was tested and found not to be significant [Wilks’ lambda =

Table 3
Comparison of Attitudes Towards Sales: By Number of Sales Courses Taken

	Mean rating on a 5-point scale		
	2 or More Sales Courses Taken (n=88)	No Sales Course Taken (n=81)	Sig. t for difference in means
Selling career is not for everyone, you have to be born with certain traits	3.53	3.77	0.120
Sales jobs are more suitable for men than for women	1.94	2.21	0.120
Sales is a career for me	3.52	2.02	0.000
It’s easier to go to top, when you start as sales person	3.47	2.98	0.001
Sales is a better paying job than other jobs available to business graduates	3.25	2.69	0.000
Performance in sales depends on individual efforts	4.55	4.63	0.332
Sales is a highly prestigious career	3.15	2.60	0.000
Salespeople have lots of opportunities to move from one job to other	3.83	3.54	0.020
Sales is a high pressure, high stress job	4.00	3.91	0.510
Rewards in sales are not worth the efforts required to succeed	2.06	2.47	0.004
Salespeople do not have good family lives	1.86	2.25	0.006
Salespeople do not have much job security	2.55	2.93	0.010
Most salespeople are honest	3.03	2.60	0.000
To succeed in sales, one has to resort to unethical practices	1.65	2.05	0.005
Salespeople keep their personal interest of making money over and above the interest of the customers they are supposed to serve	2.55	3.15	0.000
Salespeople are generally insincere about the concerns of the customers	2.43	2.70	0.040
Most salespeople try to trick you into buying things you really don’t need	2.49	2.98	0.002
Most salespeople would take advantage of those who don’t know much about buying things	2.80	3.30	0.002
To succeed in sales, one needs to have lots of persistence	4.38	4.30	0.500
Selling is for people who know how to talk	3.99	4.10	0.370
To succeed in sales, one has to develop excellent human relations skills	4.49	4.55	0.530

Note: 5=Strongly Agree, 1= Strongly Disagree

.933; $p=.519$]. These results suggest that sales courses are more influential on student perceptions of sales careers than exposure to selling via family members or internships. It is important to note, however, that the survey instrument did not differentiate between types of sales experiences. For example, students could have been involved in direct sales, retail sales or some other type of selling. Future research could more specifically measure the nature of the sales job or internship to determine if certain types of sales jobs might be more conducive to promoting positive perceptions of sales positions.

Male versus Female Differences

We found few gender differences (Table 4). Each gender expressed different views of selling. Neither gender had a necessarily more favorable perception of a sales careers than the other. Men believed that “sales is a better paying job than other jobs available to business graduates” (women’s mean=2.83; men’s means=3.08 $p=.05$), while women more strongly disagreed that “salespeople do not have much job security” (women’s mean=2.57; men’s means=2.81 $p=.03$). Furthermore, more women perceived that “selling is for people who know how to talk” (women’s mean=4.16; men’s mean=3.89 $p=.00$) and that “to succeed in sales, one has to develop excellent human relations skills” (women’s mean=4.57; men’s mean=4.46 $p=.10$). These are the skills particularly critical for relationship selling. In addition, women disagreed

that “salespeople do not have good family lives” (women’s mean=1.99; men’s mean=2.15 $p=.11$). Finally, while men thought that “sales jobs are more suitable for men than for women,” (mean=2.41) women disagreed (mean=1.86 $p=.00$).

Consistent with previous research (Muehling and Weeks 1988; Sojka and Tansuhaj 1997), these results suggest that women perceive sales careers differently than men. Men see sales as a high paying, high risk, male occupation. Women appear to view sales as a more relationship oriented, secure job, requiring good communication skills. In analyzing these different perceptions, it appears that the salesman stereotype may still be present in men’s perceptions of sales careers.

Discussion

Based on this research, it appears that college recruiters for sales positions should concentrate their campus recruiting efforts on two target groups of business students: marketing majors and students who have taken two or more sales courses. While these groups tended toward more positive perceptions of sales careers than business students in general, some interesting anomalies in the results are worth noting. Business students in general perceived a sales career to have a negative impact on family life. Marketing majors expressed the strongest disagreement that “salespeople do not have good family

Table 4
Comparison of Attitudes Towards Sales: Male versus Female

	Mean rating on a 5-point scale		
	Male Students (n=154)	Female Students (n=152)	Sig. t for difference in means
Selling career is not for everyone, you have to be born with certain traits	3.56	3.63	0.591
Sales jobs are more suitable for men than for women	2.41	1.86	0
Sales is a career for me	3.03	2.79	0.136
It’s easier to go to top, when you start as sales person	3.34	3.36	0.867
Sales is a better paying job than other jobs available to business graduates	3.08	2.83	0.048
Performance in sales depends on individual efforts	4.58	4.57	0.933
Sales is a highly prestigious career	2.86	2.87	0.964
Salespeople have lots of opportunities to move from one job to other	3.71	3.66	0.597
Sales is a high pressure, high stress job	3.85	3.95	0.262
Rewards in sales are not worth the efforts required to succeed	2.22	2.35	0.242
Salespeople do not have good family lives	2.15	1.99	0.11
Salespeople do not have much job security	2.81	2.57	0.029
Most salespeople are honest	2.88	2.89	0.849
To succeed in sales, one has to resort to unethical practices	1.91	1.74	0.108
Salespeople keep their personal interest of making money over and above the interest of the customers they are supposed to serve	2.86	2.71	0.197
Salespeople are generally insincere about the concerns of the customers	2.65	2.49	0.083
Most salespeople try to trick you into buying things you really don’t need	2.7	2.63	0.509
Most salespeople would take advantage of those who don’t know much about buying things	2.99	2.86	0.263
To succeed in sales, one needs to have lots of persistence	4.31	4.28	0.804
Selling is for people who know how to talk	3.89	4.16	0.004
To succeed in sales, one has to develop excellent human relations skills	4.46	4.57	0.102

Note: 5=Strongly Agree, 1= Strongly Disagree

lives” (mean=1.88; others’ means=2.25 p=.01). Students who had taken a sales course, and other business students, were almost equal in their perception that “salespeople do not have good family lives” (mean=2.00; others’ mean=2.25 p=.04). While family life may not initially influence their decision to accept an entry-level sales position because the majority of traditional college students are single, a negative perception of family life could be influential in terms of staying in a sales career. In addition, the fact that corporations are expanding family leave time, adding on-site day care facilities, and offering opportunities for workers to integrate family life and corporate life, suggests that family life is increasingly important to many workers. Ironically, the flexible schedule of a sales position coupled with a virtual office at home may make sales positions very conducive to family life. It is important that marketing faculty and recruiters educate students about how the family can benefit from a sales representative’s flexible schedule and how technological advances such as e-mail, fax, and video conferencing make virtual offices at home a reality.

Students seem to have consensus on the skills needed to succeed as a salesperson. They all agree that to succeed in sales, one needs to be persistent, know how to talk, and develop excellent human relation skills. Given the overriding influence of the stereotypical pushy, obnoxious salesman (sic) that the professional salesperson has been trying to dispel, it is important that college students have accurate perceptions about the realistic skills needed in sales. It would be expected that marketing majors and students who have taken sales courses would have stronger images of the consultative, trusting, mutual disclosure skills necessary for selling today. The fact that no statistically significant differences between student segments were found suggests that business students know the socially acceptable answer yet they may not believe it; the fact is that compared to marketing majors or sales students, other business students still perceive sales careers as a less positive career alternative.

Managerial Implications

The results of this research suggest several implications for college recruiters and sales faculty members. It is unclear if the myth of the “pushy, super-aggressive salesman (sic)” (McMurry 1961, p.118) has been totally dispelled on college campuses; yet it appears that certain segments of the college student population are more predisposed towards sales careers. Marketing majors and students who have taken sales courses appear to have more positive perceptions of sales careers. This study did not examine if it is the marketing and/or sales courses that have influenced student preferences for sales careers or alternately, if students predisposed toward sales careers tend to enroll in marketing and sales classes. Regardless, college recruiters would be well advised to target these segments of the college student population when recruiting for sales positions.

Even within this targeted population—marketing majors and students who have taken sales courses—college recruiters need to be aware that students, particularly male students, still perceive a sales career to have a negative impact on family life. Recruiters could point out with the communication technology available (e-mail, fax, conference calling, cellular phones, etc.) sales representatives are able to stay in contact with customers without necessarily leaving home. In addition, communication technology has made the “virtual office” a reality and many business-to-business sales representatives actually work at home. While some sales positions may require overnight trips, students should be reminded of the flexibility inherent in a sales position. In many cases, unlike a rigid eight-to-five office job, a well-organized sales representative can coordinate his/her schedule to allow for family activities; thus a sales career may even provide opportunities for a better family life than other careers. Family issues are likely to be important to college students (Shellenbarger 1998) and recruiters need to be prepared to address that concern.

Furthermore, because male and female college students have different perceptions of a sales career, different attributes of the entry sales position should be emphasized by the college

...college recruiters would be well advised to target [marketing majors and students who have taken sales courses] when recruiting for sales positions.

recruiter depending upon the applicant’s gender. Our results suggest that female college students appear to view sales positions as requiring a high degree of service and relationship selling while college men emphasize the cold-calling and customer recruitment aspects of selling. Men viewed sales as providing higher income than other positions, suggesting that starting salary and earnings opportunities need to be addressed in the interview. More women than men perceived sales as offering job security, suggesting that issues concerning job security should be addressed. Recruiters need to remember that each gender expressed different views of a sales career and therefore, the recruiter needs to adjust specific job information accordingly.

In addition, college recruiters often go outside a business college to recruit sales representatives. Students in technical fields as well as in sciences are frequently considered for sales positions related to their field of study. For example, a pharmaceutical company may recruit biology majors while a high-tech firm may interview engineering majors. In these cases, recruiters would be advised to interview students who either have a double major including marketing or who have taken sales

courses. Students could easily be screened on the basis of their college transcripts. Furthermore, recruiters need to target universities that offer majors, minors, and certificates in sales. An initial way to begin identifying universities with sales programs is to visit the Sales Professional Network website at cbpa.louisville.edu/salesnetwork.

The advantages of recruiting students predisposed toward selling has numerous implications for industry. Employee turnover is costly; particularly so in jobs such as sales that require extensive training. Furthermore, employee turnover is especially crucial in sales because of the customer relationship. It is difficult to build a customer relationship with different sales representatives; it is more efficient to build a lasting customer relationship with one sales representative who services the customer's account. Therefore, to insure customer satisfaction and reduce employee turnover costs, it is important to recruit students who are likely to stay in sales. Unlike their classmates, marketing majors and students who have taken sales courses have more knowledge and realistic expectations of a sales career. Because they know what to expect, they are more likely to be satisfied in a sales position and therefore, more likely to stay in that job. By identifying segments of the college student population who have more knowledge of selling, corporate recruiters are more likely to recruit long-term employees, thus reducing employee turnover costs and enhancing corporate-customer relationships.

Pedagogical Implications

Marketing faculty should be encouraged by these results; it appears that education has at least, in part, helped dissolve the "mystic of super-salesmanship" where aggressive, pushy salesmen emotionally beat their customers into submission (McMurry 1961). Marketing majors and students who have taken sales classes expressed positive perceptions of both the personal traits of sales representatives as well as the tasks involved in a sales career. Furthermore, interactions between the variables suggest that exposure to selling via sales courses is more important in influencing student perceptions of sales careers than even family members or sales internship experiences. Overall, these results should be encouraging to marketing faculty; it appears that personal selling and sales management courses are influencing student perceptions of sales as a viable career.

These results also suggest pedagogical implications for sales courses. Students were asked the type of skills needed in a sales position: human relation skills, communication skills, and persistence. Essentially no differences were found between marketing majors, sales students, students with previous exposure to sales, and business students. Yet it is these human value skills which separate the relationship-oriented sales representative of today from the stereotypical pushy, obnoxious salesman (sic) of the past. Perhaps faculty members should not

only emphasize the sales process, but place increased emphasis on the personal skills necessary for the relationship selling in the twenty-first century as well. Students need to be reminded that for a successful salesperson, aggressiveness may be less important than empathy, pushing is different from persuading and that sharing is more important than talking. An interesting assignment might involve having students identify past situations (in their sororities, in a club, in a group project, with a friend, etc.) where they have specifically used sales skills, like empathy, self-disclosure, or active listening to make them aware of their existing sales potential. It would also be helpful to invite professional sales representatives to class to specifically address the development of human relationship skills needed for successful selling today.

Professional selling offers college students tremendous opportunities both in terms of entry-level jobs and long-term careers. It is important that we, as faculty members, prepare our students for these opportunities and facilitate the recruitment process so that it becomes a win-win situation; the students win by being prepared with realistic job expectations and skills, and the corporate recruiter wins by recruiting those students most likely to excel and persist in sales careers.

Future Research

Additional research on student perceptions of sales careers should focus on several factors. First and foremost, it is important to note that neither this research nor previous research has undertaken the task of developing a scale to more accurately assess student perceptions of personal selling, sales representatives and sales careers. It would be particularly interesting to develop a multidimensional scale based on student perceptions of the sales task as well as student perceptions of sales representatives. As Marks (1997) points out, "even the person who doesn't like insurance salespeople in general often has high regard for his or her own broker" (p.37). It is possible that college students may perceive salespeople as basically honest but perceive the sales task as requiring deceitful behavior; thus suggesting that marketing faculty focus on sales tasks and behavior issues in personal selling classes. Conversely, if students perceive the people attracted to sales positions as people who tend to be deceitful and pushy, marketing faculty may want to bring sales representatives to speak to the class about their personal ethics and values.

In addition, by developing a valid and reliable scale instrument, longitudinal studies of student perceptions could be tracked and measured for changes in attitudes and opinions. Not only would this help college recruiters, but it would also be beneficial to the many sales representatives who sell to the college student population. Before beginning a sales presentation, the sales representatives

would have a sense of the audience's perceptions about them in their role as sales representative.

Increasing our understanding of student perceptions of sales careers through future research helps us as faculty to better prepare them for possible careers in sales. In turn, by helping students to have more realistic expectations of what a sales career entails, college recruiters can more accurately provide a good student-job fit, ultimately resulting in decreased job turnover costs for the company. ■

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When Giants Stumble: Classic Blunders and How to Avoid Them



by Robert Sobel
Prentice Hall, 1999

Reviewer: Brian Laverty
University of Toledo

Over the years, I have enjoyed many of the works of Robert Sobel. The author of over 40 books, including *Coolidge: An American Enigma*, he also wrote a monthly column on financial history for Barron's for many years. His corporate histories include studies of the Penn Central Railroad, RCA, and two books on IBM. He wrote two books about the New York Stock Exchange and two books on the American Stock Exchange. His numerous works also produced notable profiles of individuals including *The Life and Times of Dillon Read* and *Dangerous Dreamers: The Financial Innovators from Charles Merrill to Michael Milken*.

Until his recent death, Robert Sobel was the Lawrence Stessin Distinguished Professor of Business History at Hofstra University. He wrote books with the popular (rather than scholarly) audience in mind. His biographical sketch includes the observation that “[d]ownplaying the role of complex analysis and detailed statistical evidence, Sobel instead relies on biographical vignettes, anecdotes, and reminiscences to produce studies many critics find unusually brisk and entertaining.”

When Giants Stumble, the last work of Sobel, continues the tradition of writing for a popular audience. In the book, Sobel selects interesting case studies and presents them in a condensed manner. The book provides an analysis of fifteen corporate failures, highlighting the product flops or management foibles that lie behind the mistakes. Each chapter begins by providing background historical, economic, and company information and progresses to the events leading to the company's eventual decline and/or doom. Somewhat simplistically, the author has identified one main failing that eventually caused the decline, including such causes as foolishness, pride, shortsightedness, or nepotism. The author maintains that there are important lessons to be learned from these errors.

For example, Chapter 10, “The Penn Central: The Blunder of the Mismatch,” deals with the merger of the Penn Central and the New York Central Railroads. Early in the chapter, the

author identifies several difficulties with the proposed merger: 1) both companies primarily operated and competed for business in the Midwest, 2) neither brought to the table what the other needed, 3) promised economies never materialized, 4) top management scorned each other, and 5) government intrusion.

After setting the stage for a discussion of the difficulties involved, the author then devotes fully half of the chapter to a discussion of friendly mergers, the history of railroading in the U.S., the creation of the I.C.C., and the competition provided the railroads by the airline, automobile, and trucking industries. While this presentation certainly explains many of the problems faced by Penn Central, with the exception of the government intrusion factor it does little to explain the other four difficulties noted with the merger.

In the second half of the chapter, the author returns to a discussion of the merger itself. Penn Central “appeared” to be in good shape. It was structured with three levels of ownership and operation. The apex was Penn Central Transportation Co., which owned and operated the railroad and was to develop railroad owned real estate. Pennsylvania Co. owned the shares of most of the nonrailroad properties that included: Great Southwest Corp., a land developer and amusement park operator; Arvida, a Florida land developer; Macco Realty, a California company; Strick Holding Co., a manufacturer of aluminum trailers and containers; and had made significant investments in Executive Jet Aviation, an airline charter business.

The New York Central is presented as an important carrier of manufactured goods and coal but in poor financial shape and drowning in debt. The author states that the CEO of the New York Central reluctantly realized that “the Central could not survive on its own and that the Pennsylvania was his logical partner.” A set of operating characteristics are then noted as practical problems in the merger, including divisional versus departmental organizational structures and different billing, accounting, and computer systems. Why Penn Central pursued this merger is not fully explained. The author simply notes at this point, “[f]or all of these reasons the merger made little sense. That the talks continued in the face of them was the first of a series of blunders involved with the creation of the Penn Central.”

The eventual results of the merger were foul-ups, misroutings, bottlenecks, and utter confusion. Strapped for funds, Penn Central started selling its nonrailroad holdings to raise cash to invest in its railroad operations. Unable to turn the railroad around and generate a profit, Penn Central Transportation Company filed for bankruptcy on June 21, 1970.

While the chapter provides an overview of the history of the railroad industry and Penn Central, the focus on the merger with the New York Central as the main culprit in Penn's bankruptcy is tenuous. Details on why Penn Central pursued the merger are sketchy and alternative courses of action are not explored. The reader is left with numerous questions that remain unanswered by the end of the chapter.

Each chapter in the book identifies a separate blunder, fifteen in total. The chapter titles generally suggest the author's view of the cause of the decline or doom:

- Osborne Computer: The Blunder of Ineptitude
- E. J. Korvette: The Blunder of Hubris
- Kaiser-Frazer: The Blunder of Ignorance
- RCA: The Blunder of Nepotism
- W. R. Grace: The Blunder of Nonstrategic Expansion
- Packard: The Blunder of Downward Brand Extension
- Schlitz and Pabst: The Blunder of Cutting Corners
- James Ling: The Blunder of Fighting the Government
- Drexel Burnham Lambert: The Blunder of Isolation
- The Penn Central: The Blunder of the Mismatch
- Pan American World Airways: The Blunder of Dependency
- Montgomery Ward: The Blunder of the Stopped Clock
- American Tobacco: The Blunder of Standing Pat
- The New York Stock Exchange: The Blunder of the Narrow View
- Schwinn: Multiple Blunders

Unfortunately, this book was somewhat disappointing for several reasons. The subtitle of the book is "Classic Business Blunders and How to Avoid Them." While the book certainly identifies several classic blunders, it fails to provide many unique insights about the lessons to be learned and at times has difficulty concluding with a "How to Avoid Them." Despite the publisher's rhetoric concerning alternative courses of action, they are often omitted from the presentation.

Written with the popular audience in mind, the book fails to provide a single footnote. The "Selected Bibliography" at the

back of the book is not identified with the chapters to which they relate or the companies themselves and is generally compiled from articles in the popular press. A more scholarly approach would have cited academic studies and identified numerous background articles or studies from which the reader could draw their own conclusions as to the reasons for the decline or doom.

At times, somewhat irrelevant historical observations cause the book to become absorbed in unnecessary detail. This results in a lack of focus that tends to slow the reader. The book itself is poorly edited and contains significant grammatical and typographical errors. An example of a serious error from page 255 states "[t]hat year Montgomery Ward had revenues of \$1.9 million and earnings of \$16.5 million," One is left to wonder how earnings could exceed revenue by a factor of eight.

The book itself is an interesting read and some of Sobel's observations provide historical background on business and failure. However, it is written for the popular audience and lacks a certain scholarly depth that one might expect from an academic business historian. I found the book to be an enjoyable read but would not recommend it for its insights on the causes of decline or doom and the way to avoid them. Sobel's style of avoiding complex analysis also results in few alternative courses of action being explored. The reader should approach this book aware that it does not live up to much of the publisher's rhetoric concerning the causes and alternative courses of action.

