Comments from President Dean L. Hubbard

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Introductory comments for the special issue on quality, by
Dr. Dean L. Hubbard, President, Northwest Missouri State University

Innovations might be said to go through three stages: trumpeting, debunking, resolving. First, the trumpeters roll it out, claiming that the new idea will solve all problems, cure all ills and make everyone happy ever after. By overstating the case they make it easy for the debunkers to label the entire idea a short-term fad, at best, and possibly even a sham. Finally, given enough time, resolvers emerge to pick nuggets from the debris and set things on a sustainable course.

Systematic continuous improvement is no different. In the early days of the modern quality movement (circa mid-1980s) it was all about selecting the right guru. Converts circled their favorite patron saint like religious zealots, branding as heretics those who used different terms, tools or to-do lists. Most academics yawned from the sidelines and concluded the whole movement was designed for widget makers and hence irrelevant, if not harmful, for the academy.

Fortunately, over time a cadre of resolvers began to emerge. Serious academic practitioners began to measure, study and refine quality management practices in all settings, including their own. Along the way they discovered that the living/learning experience of students and the working environment of faculty can be improved and enriched through sustained effort. As principles and practices were examined, linkages were identified with the sociology of effective large group behavior. This issue of Regional Business Review showcases some of their work. I commend it to you as a “keeper” for study and future reference.

Dr. Hubbard has been president of Northwest since 1984. A major focus of his work has been systematic continuous improvement, and Northwest has won the Missouri Quality Award three times during his tenure. This special issue commemorates those achievements and the university’s centennial year.
INTRODUCTION
In August 2005, CNN highlighted a current article titled “Why We Hate HR” by Keith Hammonds (Fast Company). Why? Hammonds gives four reasons: “HR people aren’t the brightest tacks in the box, HR pursues efficiency in lieu of value, HR isn’t working for you [employee], and [T]he corner office doesn’t get HR (and vice versa).” An example of not working for you is “that asinine performance appraisal every year” that HR does “to protect themselves against their own employees” (Hammonds 2005, 43-45). A new book, Transforming HR: Creating Value Through People claims that if HR professionals do not transform they will no longer have a place with top executives—survival depends on proving that HR can add value (Reddington, Williamson and Withers 2005). Another new book, Joy at Work, explains how AES, a large global energy business, eliminated Human Resources and other staff departments because “they rob persons of the joy of work and fail to add value to the company” (Bakke 2005, 49). Linda Trainor (2005) challenges HR professionals to fundamentally change their thinking and function. These are only a few examples of the growing number of serious criticisms of the HR profession and the HR function in organizations. It is no longer just Dilbert poking fun. How can this be so, when “developing talent is business’s most important task—the sine qua non of competition in a knowledge economy” (Drucker 2002, 70).

In this article, we review the problems and trends in the area of employee relations, including rules, regulations, government requirements and tax compliance. In addition, we discuss the two critical needs of HR: performance appraisal and learning. We then develop the argument for transforming the traditional practice
of performance appraisal, beginning with the need to change common habits of thought. Finally, we make some recommendations for HR professionals, to help turn around their sagging credibility with CEOs and the people they wish to serve.

PROBLEMS AND TRENDS IN EMPLOYEE RELATIONS

The driving force behind the fast growth of the professional employee organization (PEO) created to manage the administrative, HR kinds of tasks for client businesses is “the growing burden of rules and regulations for employers” (Drucker 2002, 71). Drucker asserts “these trends are unlikely to reverse themselves . . . they’ll probably accelerate” (70). Drucker supports outsourcing of “employment-related paperwork” because these tasks are a “waste of precious, expensive, scarce resources. It [this work] is boring. It demeans and corrupts, and the only thing it can possibly teach is greater skills in cheating” (2002, 77). He notes that PEOs can reduce HR-related costs by around 40% (for small businesses) and quotes a 1997 McKinsey study that concludes big multinationals can save 25–33% on labor costs (Drucker 2002). Given these trends and Peter F. Drucker’s caution, HR might do well not to depend on these functions for their future.

Drucker sees the benefit of decreasing employment-related paperwork in creating more time for “people relations,” by which he means the “management of performance, learning, and development” (77), which, though primarily line-management work, can and should benefit from expert staff advice. If employment-related paperwork is outsourced, on what tasks can HR focus to add value to the firm and thus regain credibility with management and the people they serve?

CRITICAL NEEDS IN MANAGEMENT
Performance, Learning, and Development

Chris Argyris, a highly respected expert in organizational learning, asserts that HR people “don’t have the skills and competence to produce” the double-loop learning required to deal with change and “create genuine internal commitment for continuous, nonroutine learning and for implementing strategy” (Abernathy 1999, 83). Argyris further asserts that CEOs have lost confidence in HR staff to produce this kind of learning so necessary in anticipating and dealing with change. HR professionals talk about change but “fail to risk creating the gap...between the status-quo and the future, and to boldly ask top management for permission to take the initiative to develop the new competencies” (Abern-
It is not surprising, then, that HR departments and professionals have tended to focus on the paperwork-intensive parts of employee relations; they have been growing, are routine and low risk, and don’t require new thinking, skills, competence, and innovation (Drucker 2002; Abernathy 1999). Again, considering the growth and future trends for PEOs, it appears that HR professionals have made a bad bargain with the future. How much more promising—if more difficult—to help organizations meet what Argyris calls the “challenge in producing effective leadership, learning, change, and employee commitment . . . where the issues are nonroutine, controversial, and even threatening” (Abernathy 1999, 83). Taking on this challenge will require double-loop learning, going beyond simple independent improvements in methods and measures to identify and make fundamental changes in the whole-system (Argyris and Schon 1996). This calls for learning an entirely new set of skills. To reestablish HR’s credibility, a first step is to challenge, by rethinking in whole system terms, their long-held resistance of transformational change in performance appraisal practice.

PERFORMANCE APPRAISAL BACKGROUND

W. Edwards Deming, father of quality management and a systems theorist, proposed transforming the practice of performance appraisal (PA) twenty years ago (1986). Deming felt the negative influences of PA practices destroyed cooperation and motivation pervasively throughout the entire organizational system. In addition to PA, only “constancy of purpose” was given prominence in both Deming’s “Fourteen Points” (#11b) and his seven “Deadly Diseases (#3).” He devoted twenty pages to PA in Out of the Crisis under the third deadly disease, ten to forty times the attention he gave to the other six diseases. Despite the fact that this was a critical priority for Deming, few of the organizations that claim him as their authority and profess to practice quality management have eliminated even the worst of these practices—namely, ranking employees. Fewer still have systematically implemented Deming’s eight replacement actions (Deming 1986). Much, if not all, of the blame for this blind oversight or stubborn resistance can be laid directly at the feet of HR professionals. Is HR’s blindness or resistance justified? Or is this unseemly defensive posture something that HR professionals must change as a first step toward recovering their credibility?

Before examining the contrasting viewpoints concerning the prevailing practice of performance appraisal, two clarifications are needed. First, when Deming and Scholtes speak of “getting rid of it”, they mean the current practice of PA. The issue is not whether to appraise performance—measurement is essential. Deming, as a professionally trained statistician, was an expert on appraisal of
performance. In fact, his ideas on statistical measurement sparked a revolution and explosion in development of sophisticated measurement concepts, methods, and tools (e.g., Six Sigma and the myriad measures associated with supply chain management). The measurement related issues he identifies in performance appraisal/measurement include:

- What (or whom) to measure
- Reliability and validity of measures
- Effects of measuring the wrong things
- Negative effects of measuring too many things (e.g., MBO’s failure)
- Quality of operational definitions
- Accurate identification of possible unanticipated negative consequences of measurement
- Making assumptions explicit and testing them (versus ignoring or hiding them)
- Use or misuse of data
- Anticipating indirect and concealed negative consequences from the complex interdependencies within and outside the system
- Lack of alignment with the values and goals of the organization leading to dysfunctional rewards.

These may appear to be obvious to many people but, unfortunately, they are rarely made explicit in discussions on the subject.

The second clarification of Deming’s meaning is more conceptual, general, and influential; it is at the heart of HR professionals’ blindness. It is in the way people think, especially how they envision and understand organizations. Both Deming and Scholtes emphasize that a critical first step in transformation is to change the way one thinks. But what do they mean by this? From what? To what? Argyris and Schon explain this means going beyond simple independent improvements in methods and measures—single-loop learning—to identifying and making fundamental changes in whole systems—double-loop learning (1996). Katz and Kahn (1964) explain the difference as thinking of organizations as “flagrantly open systems” with complex interdependencies rather than
purposive, rational, subject to closed systems type thinking Chester Barnard, the original organizational systems theorist, defined organizations as open social systems of cooperation (1938). Quality management assumes open systems theory (Deming 1986; Scholtes 1998). Scholtes explains the difference as going from analytic thinking (the study of the relationships among elements) to synthetic thinking, involving synthesis—the opposite of analysis. This is similar to what Peter Senge (1990) and others call systems thinking. We begin by rethinking—fundamentally—what organizations are. The skills needed include the ability to describe and map current systems objectively, to identify anomalies and limitations, and to design fundamental changes for whole systems (Abernathy 1999).

EXAMINATION OF PERFORMANCE APPRAISAL PRACTICE
To examine the current practice of performance appraisal, one must study a wide array of key issues: definition, assumptions, values and methods, measurement, arguments for and against, alternative solutions, and control. We will compare the two alternatives for HR—improve or change—on each criterion.

Definition of Performance Appraisal
There is a wide variety of definitions of performance appraisal. In general, though, review of the literature and sampling of actual practice shows that PA is understood as the evaluation of an individual employee’s behaviors, performance, or results for a variety of uses with consequences. Also, there is general agreement on most of Scholtes’ (1993, 1998) defining characteristics: 1) focus is on individual’s work, 2) there are certain expectations or standards, 3) two sessions between employee and evaluator (establishing standards and feedback on performance), 4) evaluator has line authority over individual, 5) written conclusion [documentation], 6) various consequences [and uses of data].

Implicit Assumptions Underlying the Practice of PA
The validity of results and interpretation in scientific research are always dependent on all underlying assumptions being made explicit and subjected to tests. A few of the assumptions underlying the current practice of performance appraisal are described below.

- Outcomes can be measured adequately and all effects can be attributed to the individual, ignoring all system influences (e.g., fundamental attribution error).
■ Common cause variance is equally distributed across workers (Cardy and Carson 1996).

■ If the appraisal system measures behaviors rather than outcomes (e.g., BARS), two assumptions are made: 1) the selected set of behaviors is highly correlated with the target outcomes, and 2) there is one monolithic set of behaviors appropriate for all persons (e.g., supplier, customer) involved and interacting on a particular task or outcome.

■ “Concentrating on the performance of individuals is the key to optimizing performance of the system” (Martin 1998, 1088).

■ The key to increasing organizational performance is to focus on individual motivation through competition for rewards; further, internal competition will not result in a decrease in cooperation and an increase in political behaviors (which would produce offsetting negative effects).

**Evaluation of Assumptions**

**Individual differences.** System (common cause) factors are the major determinants of performance and variability, so an individual can be fairly measured only when outside the system and over time. Deming’s assertion—that up to 94% of total variance is attributable to common cause variance—is supported by logical and statistical reasoning and substantial evidence. Outcomes may be measurable but one cannot reliably attribute all or even a substantial part to individuals. Ranking of individuals who fall between the upper and lower limits of common cause variance, therefore, is invalid (Deming 1986). Cardy and Carson (1996) provide a typical HR defense, using a fictitious example and a Monte Carlo study. Their conclusion is that “practically meaningful differences in individual performance can exist within a system which is said to be in control” (203). Their point is irrelevant and a strawman. In a whole system, individual differences *on average* can indeed make a difference, but this ignores the question of whether individual employees can be measured reliably and validly as a basis for competitive rankings. To assume that measurement error is distributed equally for each individual in small samples of employees being rated by a particular manager is to ignore the most fundamental statistical assumptions of sample size and representativeness. You cannot do this to people and, at the same time, claim to value them.
System variance. There is no logical or empirical basis to assume equal distribution of system variance, and we certainly do not experience it in real life, especially in small samples of employees (Martin 1998). Deming found this assumption (underlying employee ranking) the single most grievous practice.

Measuring behaviors. The assumptions underlying behavioral measures are 1) there is one monolithic set of behaviors appropriate and necessary for all persons responsible for a particular task, and 2) this set will be highly correlated with the desired organizational outcomes. The first is inconsistent with the uniqueness of individuals. The second is an empirical question that may hold for highly mechanistic tasks in closed systems (e.g., airline pilot) but fail when the task involves organic interaction (e.g., server with a variety of unique customers). Is conformity of behaviors desirable? According to Deming, “[P]eople get rewarded for conforming. No wonder we are on a decline” (Cotter and Seymour 1993, 31). “Controlling the work process means control of the work, and not control of the worker” (Drucker 1973, 217–218).

Trade-off of scarce resources. Given the generally accepted statistical ratio of 85% common cause to 15% special cause (Deming asserts 94% to 6%); system improvements provide a ratio of over five times the cost/benefit potential. Unequivocally, greater results come from the manager and employees focusing on improving processes and the system cooperatively—the “win/win” philosophy (Deming 1986; Scholtes 1998). Applying Deming’s principles to the appraisal of faculty teaching performance in higher education, James Martin builds a persuasive case for a student-centered active learning model that builds “student capacity for self-discovery” (1998, 1081). Faculty members approach design of the program, delivery, assessment, improvement, and redesign collaboratively as a team. This assures an outcomes-driven, integrated, and developmental process across courses. Student learning performance is measured by demonstration of competence on a program-wide basis (Martin 1998).

Optimizing organizational performance. PA uses competition and extrinsic rewards to motivate individuals, assuming this will maximize organizational performance. Yet we have known for a long time that “the carrot and stick way no longer works” and “psychological manipulation—a particularly repugnant form of tyranny—will not motivate” (Drucker 1973, 235, 244). “Most employees want to do their best; two things prevent it, barriers in the system and they don’t know how” (Deming 1992). The manager’s job thus must focus on removing
barriers in the system and providing relevant and timely learning opportunities. Given a mutually respectful work relationship, the worker is internally motivated. Synthetic thinking results in design and continuous improvement of the system to optimize organizational performance.

**The Underlying Values and Methods of PA**

Scholtes details the differences in Table 1 (1993, 6) and it is clear that the two viewpoints have a radically different set of values and methods underlying the manager’s job and moral guidelines. To identify values, one must look beyond the obvious and ask relevant questions. For example, saying that “employees need and desire feedback” is, at once, both undeniable and meaningless. The relevant questions include: On what? From whom? From where? To be used for what? Table 1 clarifies this point.

<table>
<thead>
<tr>
<th>Table 1. Performance Appraisal: Values and Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Someone can support . . .</strong></td>
</tr>
<tr>
<td>Giving direction to the workforce</td>
</tr>
<tr>
<td>Controlling processes</td>
</tr>
<tr>
<td>Employees receiving evaluation data from systems/processes</td>
</tr>
<tr>
<td>Feedback based on the needs of customers and the key process indicators</td>
</tr>
<tr>
<td>Feedback from parts of the system that receive one's work (internal customers)</td>
</tr>
<tr>
<td>Feedback useful for improvement</td>
</tr>
<tr>
<td>Supporting workers’ inherent (internal) motivation</td>
</tr>
</tbody>
</table>

Source: Scholtes 1993, 6

**Measurement**

Measurement of individuals is performed either by identifying behaviors that are closely related to outcomes or by direct measurement of the outcomes for which they are responsible.
Behaviors. Early work on behaviorally anchored rating scales, BARS (Smith and Kendall 1963) had high expectations; however, research on the problems with rating errors (Leniency, Severity, Halo) has not shown these forms to be successful in eliminating errors. Further, training of supervisors has produced mixed results (Spector 2002).

Outcomes. While we have made progress in measuring outcomes, we are still plagued by the assumption that “each individual is responsible for any variations in his or her performance, each worker can control his or her actual performance” (Martin 1998, 1082). In addition to this fundamental attribution error, MBO research has highly mixed results and negative unanticipated consequences (see #8 on control below for more explanation).
Table 3. Performance Appraisal: Reasons for Keeping PA by Defenders

<table>
<thead>
<tr>
<th>Cardy and Carson (1997, 196)</th>
<th>Response: Deming, Scholtes, Martin, Kerr</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Individual differences make a difference</td>
<td>1. Moot issue. Real issue is accuracy of measures and degree of system and individual influences on outcomes</td>
</tr>
<tr>
<td>2. Usefulness in legal defense</td>
<td>2. PA systems are hard to defend e.g., “Performance Appraisals—The Plaintiff’s Best Friend?” (Haneberg 2005, 4) Avoid. Debundle. Deal with independently.</td>
</tr>
<tr>
<td>3. Use for bonus or merit system</td>
<td>3. Basing rewards on bad measurement is folly (Kerr 1995)</td>
</tr>
<tr>
<td>4. Operationalizes goals</td>
<td>4. Can be done without PA, cooperatively by teams (see Deming’s eight actions, 1986, 120)</td>
</tr>
<tr>
<td>5. Feedback from supervisor</td>
<td>5. Feedback from customer (Scholtes, 1993, 6)</td>
</tr>
<tr>
<td>6. Appraisal criteria can include teamwork</td>
<td>6. Improbable without game-playing.</td>
</tr>
<tr>
<td>7. Improvement in performance requires assessment</td>
<td>7. Yes, but this requires accurate assessment of system and individual performance versus attributing all to the individual</td>
</tr>
<tr>
<td>8. Can motivate improved performance</td>
<td>8. Or demotivate to mediocrity and conformity. Rating people unleashes a host of negative feelings and behaviors that increase variance and lower organizational performance.</td>
</tr>
<tr>
<td>9. Fairness requires differences in performance levels.</td>
<td>9. True, but only when differences are accurately measured. Fairness requires treating every person with dignity.</td>
</tr>
<tr>
<td>10. A compelling case cannot be made against PA; thus, thoughtful organizations should decide on the basis of a cost/benefit analysis.</td>
<td>10. Interestingly, the authors provide no examples of how such an analysis might be made. How to quantify the costs and benefits of a cooperative (win/win) vs. competitive (win/lose) culture, etc.?</td>
</tr>
</tbody>
</table>
Improvements to Current Practice Versus Change to an Alternative System

The arguments for improving current PA practice and for changing to a new whole system are compared in summary form in Table 4. As an example of the systems approach, Martin examined the current practice of using student opinion surveys for performance appraisal of faculty members in higher education. In this application, the systems approach focuses on collaborative “development and assessment of program-wide learning outcomes” (1998, 1079). The cooperative systems approach to student learning is contrasted to the competitive approach to individual teaching. Faculty members become part of an “integrated learning development and assessment team, rather than a group of independent contractors [teaching discrete packets of content knowledge – courses] competing for individual awards” (1998, 1090). Students learn how to think, communicate, interact, and value in a variety of contexts developmentally across the curricular process, in contrast to completing courses that often fail to make clear conceptual and developmental connections. Martin’s specific application provides an example of how Deming’s principles may be adapted to systemic redesign of PA in a variety of types of organizations.

Controls, Control and Management

Implicit in the discussion above are two quite different views of the nature of organizations, people, and the manager’s primary job – control of the organization and its performance. One view (typically HR’s) presents an almost closed system view of organizations and a highly controlling and manipulative philosophy of managing individual workers by measurement controls, including PA. The other view fully understands the emphasis that Barnard and Drucker give to cooperation and the complexity, interdependence, and volitional nature of authority (Barnard 1938) and control (Drucker 1973). This is nowhere better explained than in Drucker’s classic chapter “Controls, Control, and Management.”

In designing controls for an organization one has to understand and analyze the actual control of the business, its people decisions. Otherwise one designs a system of controls which does not lead to control. . . its system of rewards and punishments, of values and taboos. . .

Measuring [controls] . . . demands that measurement be used to make self-control possible rather than abused to control people from the outside and above—that is, to dominate them (Drucker 1973, 505).
DISCUSSION

It appears that HR professionals have become captive of what Thomas Kuhn (1970) famously called “normal science,” or working within the current paradigm (similar to Argyris’ single-loop, as opposed to double-loop, learning). This may explain why many HR professionals continue to defend marginal improvements in the status-quo, rather than the radical system change that Deming and other quality proponents have unambiguously demanded. We live in a rapidly changing world, and the current paradigm is not sufficient to address the challenges we face. It is time for HR professionals to embrace a new paradigm that focuses on continuous improvement and system change rather than incremental adjustments.

Table 4. Comparison of Two Views on Improving or Replacing PA

<table>
<thead>
<tr>
<th>Improve by . . .</th>
<th>Replace with . . .</th>
<th>which requires people to . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Add TQM-type dimensions to PA as criteria: team orientation, flexibility, innovativeness, ability to apply statistical control techniques, . . .”</td>
<td>Institute leadership, education in leadership.</td>
<td>1. Change the way they think.</td>
</tr>
<tr>
<td></td>
<td>More careful selection of the people in the first place.</td>
<td>2. Just stop doing it [PA].</td>
</tr>
<tr>
<td></td>
<td>Better training and education after selection.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>A leader, instead of being a judge, will be a colleague, counseling and leading people on a day-to-day basis.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>A leader will discover who if any of his people are outside or belonging to the system.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The people of a group that form a system will all be subject to the company’s formula for raises in pay.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hold a long interview with every employee, at least once a year.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Figures on performance should be used not to rank the people in a group that falls within the system, but to assist the leader to improve the system.</td>
<td></td>
</tr>
</tbody>
</table>

(Debundle: 1. Identify each key function 2. Treat as separate 3. Determine best way to accomplish 4. Set up separate processes consistent with quality principles Employees alone or in teams 1. Identify key work process 2. Identify customer(s) of the process 3. Learn what’s most important to customer (characteristics) 4. Get customer feedback (Scholtes 1993, 10–11))

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changing world. HR professionals, like scientists when confronting the increasing occurrence of anomaly, need to challenge the status quo and look for alternative theories.

One typical HR defense is that the practice is not as bad as Deming suggests and any deficiencies can be corrected with marginal improvements in measurement (e.g., BARS scales), methods (e.g., 360-degree), and management and employee training. Failure to challenge the more fundamental underlying assumptions, principles, and values of the practice of performance appraisal is, in fact, a failure of some of the fundamental values of HR—objectivity, critical thinking, hypothesis (claim) testing, systematic study of alternative relations (analysis). More fundamentally, HR is in denial of the reality of change.

CONCLUSIONS

Scholtes recommends, as a first step, to change the way one thinks (1993). Argyris (Abernathy 1999) recommends applying double-loop learning ideas to both individual and group performance reviews. HR professionals do not appear able to do either. This leaves them in their current unenviable position of low credibility, not owning either the confidence of their CEO or of the people they profess to serve.

An early step HR professionals might take to reestablish credibility is to ask
CEOs to grant permission to 1) study outsourcing the routine (and boring) part of the employee relations function, and 2) challenge the current practice of performance appraisal with trial use of double-loop learning, with its systematic challenge of the assumptions, principles, and values underlying the PA process. If successful in these not-too-risky ventures, HR might then ask for CEO permission and enthusiasm to take on the daunting task of creating a double-loop learning organization. This would begin by exposing the gap between the status quo and the needs of the future, in terms of individual and organizational learning. It could end with the organization becoming a true learning organization and on the leading edge in terms of adaptability to change.

HR must decide what role they will play in organizations in the future. Outsourcing the routine (and boring) employee relations function will decrease the size of the HR department. Accepting the much smaller (but more needed and morally imperative) role of providing expert advice and training to operating people, on how to manage performance, create learning, and develop employees will be a difficult transition, but it may be just the trick to regain credibility.
REFERENCES


Beyond Benchmarking: Maximizing Quality One Step at a Time

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INTRODUCTION

It has been said that one can never be too rich or too thin. Organizations might believe the same about quality—that it can never be too high. In a never-ending quest for more, better, or higher quality, businesses often look toward perceived “magic bullets” or “the latest thing” to reach that end. One of the more popular methods of maximizing quality has been benchmarking (Gunasekaran 2001; Harrington 1996; Miller 1992).

Benchmarking, a procedure popularized by Xerox in the early 1980s, is an ongoing process of measuring one’s firm against the world’s best, with an eye toward formulating goals based on how those exceptional businesses conduct themselves (Mittelstadt 1992). Camp recommended benchmarking as an orientation and process leading to “profitable... businesses that meet customer needs and have a competitive advantage” (1989, 3). As with most hoped-for panaceas, however, effects of benchmarking proved to be more complex than first considered.

The International Quality Study (American Quality Foundation 1992) reported that benchmarking had limitations not apparent to its early promoters. Only for the best performing companies did it produce positive bottom-line results. Lower performing businesses failed to show improvement via benchmarking, with the lowest performing suffering performance drops! Likewise, a report by
Ernst and Young (Port and Smith 1992) challenged the notion that benchmarking guarantees success. Ernst and Young surveyed management practices in more than 500 U.S. organizations in the automotive, computer, banking, and health care industries. Those that were already performing well when they introduced benchmarking achieved benefits with the introduction of the practice, but firms that were performing at medium or low levels showed no significant benefits.

The problem gleaned from these investigations seems to be in the difference between one’s own firm and those that serve as benchmarks. If the difference is too great, benchmarked goals can appear to be impossible to reach and prove discouraging instead of encouraging (Reger et al. 1994). Research clearly shows that impossible goals do not lead to enhanced performance (Locke and Latham 1990). Many medium and low performers may be overwhelmed by the task of reaching benchmarked goals. Indeed, comparing one’s organization to world-class organizations may lead to hopelessness and subsequent performance declines (Snyder 1994). In support of this view is a study by Mann, Samson, and Dow (1998) that found a “small wins” strategy (Weick 1984) where firms introduced a series of short-term, “doable” projects, led to higher sales performance than a “big bang” approach that incorporated ambitious large-scale change programs over a long time horizon.

Optimally, the difference between one’s current situation and the ideal should be large enough to create a desire for change or improve (Huff, Huff and Thomas 1992), but not be so great that the goal seems unreachable (Forward and Zander 1971; Osgood and Tannenbaum 1955). Asking for gigantic amounts of improvement often discourages the worker and disappoints management. An example in academe might be a small, regional, state university whose administration decides to emulate Oxford or Harvard. Though the desire to do as well as possible is laudable, frequently what is perceived by the rank and file, who are usually painfully aware of their resource limitations and the frustrations of increasing or improving them, is the absurdity of the goal. Hence, not only do the average workers not buy into the new benchmark, they may come to look askance at other, more reachable goals promoted by the same sources, a process sometimes labeled over-generalization (Cavanaugh 1982).

By analogy, if a benchmark is too different from current functioning it may be like trying to get from the first floor of one’s office building to the second by a single great leap. Which of us would try to do so, even if asked by otherwise rational and supportive management? This is not an accidental analogy, how-
ever, since it has inherent within it the means of reaching the goal—the second floor. In all likelihood, the building has a stairway to the second floor providing a succession of steps, each intended to lead to the next, the final one culminating at the otherwise impossible goal. The idea of reaching goals by small steps is the basis of “shaping,” a means of approximating the overall goal a step at a time (Watson and Tharp 2002) and the topic of this paper.

Yet, shaping is not the solution for all business contingencies. One of the perceived drawbacks of using shaping to reach quality goals is that it takes both a certain amount of time and considerable advance planning. Unfortunately, firms may wait to implement change strategies at the last moment, when problems have become critical. Shaping will not be a realistic option in these instances. Drastic action may be needed, with all the risks and drawbacks that entails (Soper, Von Bergen and Sanders 1996). Where shaping is appropriate, its organized and planned procedures can be an effective prophylactic to crisis development. Any road to enhanced quality must be carefully scrutinized in advance of implementation, to ascertain that it is the best one for the situation and available resources.

**LEARNING FROM CHILDREN**

Shaping promotes gradual improvement from a known, initial behavior to the desired goal (Grant and Evans 1994). Shaping allows one to build desired behavior in steps and reward those behaviors that come progressively closer to the one selected as the final objective. When using shaping, rewards depend on behaviors increasingly similar to the final goal. Shaping is similar to the child’s game of “Hot and Cold” (Morgan 1974), where hearing “hotter” (being reinforced) occurs only when movement is increasingly closer to the target. Shaping has been described as “a series of successive approximations, each made possible by selectively reinforcing certain responses and not others. Thus behavior is gradually brought closer and closer to the desired pattern” (Hill 1963, 71). Shaping can be applied to virtually any behavioral outcome that can be analyzed and broken into discrete steps, reachable from those that have come before.

Many sports programs for children represent shaping in practice. Teaching children sports, such as gymnastics, tee ball, and basketball provide further examples of the utility of shaping. For example, Daniels and Daniels (2004) wrote that when teaching gymnastics, coaches give considerable physical help in the early stages and gradually remove such support until students perform
solo. They describe teaching a back flip in which the coach frequently places a hand on the back of a child and uses the other to toss the child. Good gymnastic coaches reward even the smallest improvements until help is no longer needed. From that point on, occasional praise maintains the behavior and encourages continued improvement.

Similarly, many boys and girls aged 5–10 years get their start in baseball and softball by playing tee ball. The program eliminates pitchers and catchers and replaces them with an adjustable tee at home plate on which the ball sits, hence the name. Batters hit the ball from the tee and send it out towards the fielders and play continues as in a game of baseball or softball. Because there is much less chance to strike out, the games are usually much faster than traditional baseball and children feel a sense of achievement. The elimination of pitching allows children to participate without the fear of being hit by a pitched ball. Tee ball develops the primary baseball skills of hitting, running, fielding and throwing; it has proven to be a natural transition into standard baseball and softball. As such, it provides a steady supply of young players already equipped with the basic skills and an enthusiasm for these sports.

Similar approaches to help children learn basketball have occurred. Professional basketball is played on a floor 94 feet in length, having four 12-minute quarters and a half, using a ball 30 inches in circumference, with the basket 10 feet above the playing floor. Youth leagues, generally accepting boys and girls beginning at age five, have modified these dimensions to make basketball a challenging but not impossible game for children, by adjusting the length of time that the game is played to meet the age, fitness level, and skill of the players (most youth games have six-minute quarters). There are short breaks between each quarter and at half-time. Also, the game is played on courts as short as 50 feet. Likewise, the height of the basket and the size of the basketball are adjusted for the player’s size, to ensure that there are opportunities for the children to succeed. For example, mini-balls, 22 inches around, are available for the younger children and adjustable-height basket systems can be lowered to six feet. As the children mature, the playing dimensions are adjusted and approach the professional sizes. Such adaptations have contributed to the success basketball has recently experienced and have made it accessible to millions of young players who would have found the game all but impossible in its standard professional size.

Shaping, therefore, uses two important behavioral principles: consecutive goals that move individuals ahead in small steps to a distant point, and increased op-
opportunities for rewards and success that keep the overall effort vigorous (National Heart, Lung, and Blood Institute).

THE LONGEST TRIP STARTS WITH THE FIRST STEP
The adage, “A journey of a thousand miles begins with but a single step” is analogous to the shaping process if each successfully completed step is rewarded. Though not typically thought of in this light, complex organizational behaviors and programs begin with a single step and build upon it. Organizational shaping can be particularly beneficial when teaching new responses for people who have been unsuccessful in the past or with those for whom the ultimate goal seems far removed. For example, modifying the performance of those with past deficiencies and new employees learning the ropes may require extensive shaping.

An example of how shaping has been used successfully in business involved a management trainer who wished to shape public speaking behaviors in supervisors who particularly feared doing so. Although the supervisors had considerable discomfort reading a prepared speech to others, they had much less difficulty reading lists of words. Therefore, list reading was the initial step in the shaping process, with the trainer providing abundant praise as each supervisor succeeded. Subsequent steps included reading a paragraph to the class without looking up, followed by a reading that included glancing at the audience after each sentence, and so on toward the goal of giving a 15-minute extemporaneous speech.

As illustrated, those using shaping must be creative in choosing starting behaviors to reward. Steps should be large enough so that progress is as quick as possible but small enough to be doable. Each increment should be clear and concrete. There should be no doubt if the step has been attained. It is essential that success experiences be built in from the start. This may entail what would seem (to those who can already perform) like very small initial steps. As performance increases, however, the intervening steps can sometimes be made larger to better fit developing confidence and competencies. When requisite changes in behavior are too great between steps the new behavior may be “lost”, and the response must be reshaped by reverting to an earlier step that is still performed successfully.

ESTABLISHING STEPS
When using shaping, the criterion for reward or positive reinforcement is any new movement toward the final goal. Generally, the smaller the improvement
reinforced, the faster the progress (Daniels 1989). Shaping consists of establishing intermediate steps along the way to the final outcome. Attainment of new steps should be reinforced several times before moving to the next step. Having subgoals is not the distinguishing feature of shaping in itself; rather, it is these steps and consistently rewarding their attainment in a stepwise fashion. The following example might approximate a quality improvement situation. If people are performing at 70% efficiency and a new goal is set at 90%, one is not shaping if that improvement is not readily reachable. Intervening steps of 72%, 75%, 80%, etc. may be necessary subgoals—ones more readily attainable.

Successful use of shaping requires knowledge, skill, and patience. One must know the proper behaviors and sequences of behaviors that lead to the quality goal. One must have the skill to recognize and reinforce even small improvements. Finally, one must have the patience to watch workers struggle at something others may do well. Most supervisors are not skilled at identifying small improvements in performance and reinforcing them; many function on an “all or nothing” basis. This ability is critical for the most efficient managers, however, and it is an ability that can be learned. Daniels (1989) contends that when done properly, shaping is the most efficient and quickest route to high performance. And what is quality, but a predefined high level of performance?

**SHAPING STRATEGY**

Managers should follow certain steps, to implement an effective shaping strategy (Luthans and Kreitner 1975):

1) Precisely define the goal, which should always be related to performance and be stated in terms of behaviors to be performed.

2) If the final goal entails a complex chain of behavior, convert it to a discrete, observable, and thus measurable sequence of specific behavioral steps.

3) Make sure employees are capable of doing the behaviors required to reach the new goal. If not, train them in appropriate behaviors.

4) Select potentially effective rewards on the basis of the organization’s history and members’ perceptions.
5) Make all positive reinforcement contingent upon successively closer approximations to the final goal. The behavioral chain must be built link by link.

6) Maintain and strengthen target behaviors as they occur. Once the desired goal is achieved, it must be continually monitored, managed, and reinforced.

For a better understanding of the shaping process, these steps are explained in more detail.

**Define the Target Behavior**

That which is to be accomplished must be pinpointed precisely. This requires precise descriptions of behavioral results that are observable and measurable and indications of where and when the behaviors are expected to occur. Results are tangible, observable behaviors, not beliefs, attitudes, or anything internal, subjective, or abstract. Overgeneralization or imprecision during this first step will sabotage later steps and permanently cripple any attempt to shape organizational behavior successfully.

This initial step in the shaping process is similar to management by objectives (MBO; Drucker 1954). It can be defined as setting behavioral objectives and appraising performance results. MBO experts generally agree on the need for specific, measurable objectives. The close correlation between objectives and pinpointed behavior in the shaping process may seem obvious. However, there are differences. The shaping process gives closer attention to specific performance-related behaviors. MBO relies heavily on self-control with the commitment to and accomplishment of mutually determined objectives. Shaping entails a more precise and systematic program of positive consequences than the typical MBO approach.

**Break Down Behavior into Sequential Steps**

A natural second step is to divide complex behavior into sequences of observable behavioral events, so observers can decide whether they have occurred. Next, consider how large each step (approximation/subgoal) should be and how long the organization needs to remain focused on each step before proceeding to the next.

What action should be taken if the organization’s behavior begins to deteriorate? Unfortunately, there are no hard and fast rules. In general, one can say that each
step must be small and specific enough to be accomplished, but not so small as to be boring or trivializing. Consider the following. Observe the organization’s behavior closely. If progress is consistent and satisfactory, one may assume that step size and time spent on each step are appropriate. But, if progress begins to level off or falter, the steps should be reexamined. If goal levels are increased too rapidly, failure to earn rewards will impede progress. The situation should be structured so employees succeed much more often than they fail. Failure inhibits movement to the next step, the same as when climbing the staircase mentioned earlier (moving to the second floor of one’s office building). If one stumbles along the way, one must still take each step successfully. The best mistake to make is to set goals too low (Daniels 1989). If the goal is low, the probability of success is greater. If the goal is reached and success is celebrated, motivation to do even more the next time is usually increased.

**Meet Skill Requirements**

The third step emphasizes the technical skill requirements that, if not mastered by employees, block the attainment of the goal. Managers and executives are cautioned against using labels like “lazy,” “lacks drive” and “bad attitude” in describing employee skill deficiencies. Such vague generalities imply that the problem, and therefore the solution to the problem, is within the person. Using such labels not only fails to change performance, but also produces blame with all the negative side-effects associated with it. Labels put individuals on the defensive and interfere with their cooperation. When a manager approaches job requirements this way, the only solution is to tell the person to “shape up or ship out,” which introduces another set of managerial problems and provides little benefit. Skill deficits, conversely, can usually be overcome.

**Select Positive Reinforcers**

Just as the target behavior and its components must be identified, appropriate rewards or positive reinforcers must be specified. One place to start is to analyze individual employee histories of reinforcement and use self-report instruments. The critical point is to make sure that the most powerful reinforcements become part of the shaping process.

**Apply Contingent Reinforcers to Approximations**

Complex chains of responses leading to the target behavior must be built link by link, through a carefully managed program of positive consequences. Each link in the behavioral chain is positively reinforced initially and later is not reinforced, as the next behavior closer to the benchmark occurs. The new behavior is
rewarded instead. Thus, only the newest link or the latest behavior, closest to the target behavior, is reinforced.

**Celebrate Results**

Remember that how one sets goals in relation to present performance is critical, but an equally important consideration is the celebration of goal attainment. Acclaim is a great motivator. David McClelland, a Harvard psychologist who has studied achievement for decades (McClelland 1961), determined that the highest achievers in our society set moderate goals. To become high achievers these persons undoubtedly have high aims, but they set moderate goals to manage their day-to-day performance. Employees are no different; they can operate at their best nearly every day. What we have to do is help them reach that goal one step at a time. “Goals that are celebrated are records waiting to be broken” (Daniels 1994, 124).

**CONCLUSION**

The foregoing six-step strategy permits the practicing manager to reduce performance deficits in an employee’s behavior systematically, and in so doing attain goals specifically identified with desired changes in quality. Shaping permits the attainment of goals initially thought impossible. Supervisors and managers can benefit from a working knowledge of how to shape organizational behavior if they wish to maximize quality and are willing to define it in behavioral terms. Executives using benchmarking strategies to set goals and improve organizational performance must be aware that the procedure can be helpful only when the goals established are perceived by employees as possible and attainable. In designing benchmarking programs, organizations must set performance targets that take into account the magnitude of the performance gap vis a vis the other (benchmarked) firms’, and in light of what can be achieved, realistically, within a given time period. Hence, the continual attainment of quality goes beyond benchmarking.
REFERENCES


INTRODUCTION
In recent years we have come to recognize that the human resource management (HRM) function has the potential to have more impact on competitive advantage than any other business function (Barney and Wright 1998; Pfeffer 1994, 1995). Academic researchers and practitioners alike have come to acknowledge that the only long-term source of competitive advantage comes from an organization’s people, because they are the creative force that makes operational all of the other functional initiatives, programs, and processes that form the basis for competitive advantage. Unlike the traditional sources of competitive advantage based on product or process technology, access to capital, or marketing or product characteristics, advantages in human resource capabilities are the most difficult to imitate and, as a result, the most sustainable (Pfeffer 1994, 1995). Similarly, the importance of HRM is reflected in formal quality initiatives and has been captured in performance measures such as the criteria for the prestigious Malcolm Baldrige National Quality Award. The award is named after the former Secretary of Commerce, who is credited with helping to improve the efficiency and effectiveness of the federal government. This paper reviews the Baldrige Award and examines the importance of HRM programs and measures in the Baldrige Award criteria, with a focus on human resource metrics in assessment and evaluation.

APPLICATION OF A QUALITY FRAMEWORK TO HRM
We are accustomed to thinking about quality within the context of production
and operations management. In that context, one general definition of quality is the ability of a product or service to meet or exceed customer expectations (Stevenson 2002). Others argue that customer satisfaction is not enough, because quality must come at acceptable costs (Bernardin and Russell 1998). The concept of Total Quality Management (TQM), however, has come to refer to a broader set of activities and managerial practices relating not just to production processes but to a fairly consistent set of philosophies and management techniques. Both the philosophy and many of the techniques have origins in the writings and advocacy of quality gurus including W. Edwards Deming, Joseph Juran, Philip Crosby and others (Baron and Kreps, 1999; Stevenson, 2002). TQM encompasses a philosophy that focuses on quality and continuous improvement. The original focus on quality, dating from the 1950s, was largely reactive because its purpose was finding product defects and correcting them. By the end of the 1970s, however, the quality movement took a decidedly strategic path, and the increasingly proactive approach focused on preventing errors rather than detecting them (Stevenson 2002).

The evolution of the quality movement over the last 50 years has produced three equally important parts. The first of these is the philosophy that underscores the TQM movement, the second is the well-known set of statistical tools and production techniques used to monitor and document quality, and the third is a set of human resource practices that are necessary to implement the philosophies and tools (Baron and Kreps 1999). University classes in production and operations management focus on the philosophy of quality, often describing and discussing Deming’s 14 Points (Deming 1982), Juran’s 10 Steps (Juran 1951), Feigenbaum’s quality principles (Capezio and Morehouse 1995), or Crosby’s concept of zero defects (Crosby 1984). Similarly, the statistical control techniques and production processes associated with the quality initiative are addressed in considerable detail.

The human resource philosophies and programs have been labeled “high-commitment” human resource practices (Baron and Kreps 1999) and various “best practices” models have been widely advocated as means to establish competitive advantage (e.g., Pfeffer 1994). The implications of TQM for the HRM function have been addressed in the academic literature (Blackburn and Rosen 1993), and most HRM textbooks include at least some mention of a quality framework. The attention given to HRM within the quality framework is largely devoted to describing the normative premise that organizations must adopt a set of high-performance workplace (HPW) practices in order to implement a quality initiative.
This premise is usually accepted uncritically, and it does have some empirical support (MacDuffie 1995; Youndt et al. 1996). This article does not challenge this premise, but discusses how it has become an integral part of the assessment process for the most significant award for quality in the United States, the Malcolm Baldrige National Quality Award.

THE BALDRIGE AWARD

By the mid-1980s almost all American businesses were aware of the changing competitive environment in the United States following the OPEC oil embargo of the late 1970s, continued deregulation in major industries, and other cost pressures from increasing global competition (Bernardin and Russell 1998; Pfeffer 1994). Market share losses were experienced in major industries, most notably in the auto industry where more fuel efficient Japanese imports began to claim a major piece of the U.S. automobile market. Japanese auto makers, under the guidance of American quality experts W. Edwards Deming and Joseph M. Juran, had made major improvements in product quality, to the extent that by the beginning of the 1980s the general perception began to be that Japanese vehicles were superior in quality to American automobiles. The perceived quality of Japanese autos generalized to other consumer goods produced by Japanese manufacturers and their products became more attractive to American consumers (Stevenson 2002). The full-scale assault on American manufacturers had begun.

The change in the global competitive environment had not gone unnoticed by U.S. lawmakers. One response was a legislative endeavor to encourage and reward quality initiatives, as the 100th Congress passed Public Law 100-107 (the Malcolm Baldrige National Quality Improvement Act of 1987). The act formally recognized that U.S. manufacturers faced significant challenges by foreign competitors and that the country’s leadership in product and process technology was being severely challenged. It also formally expressed concerns over U.S. productivity growth that, for the two previous decades, had been lower than international competitors, and recognized that a renewed commitment to strategic quality was essential for the U.S. to compete in the rapidly changing global market.

The most significant and influential language incorporated into this new law reflected the changing paradigm in management thought: recognition that quality is more than the imposition of a set of operational activities and statistical procedures. Instead, quality initiatives are strategic and require fundamental changes,
not just in production methods, but in managerial philosophies, particularly the way the company views and uses its human resources.

To encourage quality initiatives, Congress established the Malcolm Baldrige National Quality Award as part of the act. The award was designed to recognize quality programs and quality improvement and to disseminate information about successful programs. In other words, the Baldrige Award was designed as an incentive for companies to improve product quality and productivity, because it was a means to publicly recognize that winning companies met a set of quality criteria that served to enhance their reputations and management teams. One of the important contributions of the Baldrige Award was that it reinforced the current stream of management thought that reflected a changing paradigm in how managers viewed employees. The predominant view of labor, beginning with the Industrial Revolution, continuing under the influence of Frederic Taylor and Scientific Management, and persisting through most of the twentieth century, was that labor was a cost to be minimized and a manager’s job was to exert as much control over employees as possible, in order to minimize dependence on unreliable labor. It was not until the 1970s that the management literature began firmly embracing the notion that human resources can be a source of competitive advantage, or, as some have argued, the most important long-term source of competitive advantage (Barney and Wright 1998; Pfeffer 1994). The Baldrige Award firmly embraced the new paradigm, with both explicit criteria embracing high performance workplace (HPW) practices and criteria relating to organizational characteristics and production processes that implicitly reinforce HPW ideals.

**BALDRIGE AWARD CRITERION MEASURES OF QUALITY**

To understand the importance of HRM in quality initiatives, it is helpful to first understand the evaluation criteria of the Baldrige Award process. The Baldrige Award uses seven categories of criteria and a weighting system to establish a point score with which to evaluate applicant organizations. These categories, their descriptions, and the discussion that follows are based on the Baldrige Award 2005 application process (Baldrige National Quality Program 2005). The criteria labels, definitions, and their relative weights include:

1. **Leadership** (120 points), which includes both evaluations of how senior leaders guide and sustain the organization and measures of social responsibility.
2. Strategic Planning (85 points), describing the formulation and implementation of organizational strategy.

3. Customer and Market Focus (85 points), including how organizations acquire knowledge of customers and how they build and sustain relationships with customers.

4. Measurement, Analysis, and Knowledge Management (90 points), relating to how organizational performance measures are established and reviewed and how information systems are managed.

5. Human Resource Focus (85 points) involves the design of work, the development and training of employees, and employee well-being.

6. Process Management (85 points) examines how value is created by organizational processes and how processes are managed and supported.

7. Business Results (450 points), including measures of customer satisfaction with products and services, financial and market results, human resource results, other measures of organization effectiveness, and measures of social responsibility.

The Baldrige Award uses this 1,000 point rating system to evaluate applicant organizations based on written applications and a site visit.

While it appears that less than ten percent of the evaluation depends on HRM issues based on the 85 points given to category 5 (human resource focus), the reality is more complex. Significant portions of categories 1 (leadership), 2 (strategic planning), and 7 (business result) relate directly to human resource outcomes, and various aspects of other criteria are either influenced by human resource programs or require human resource initiatives in order to succeed. Therefore, the organization’s HRM activities are integral to a successful Baldrige Award application.

The Baldrige criterion of Measurement, Analysis, and Knowledge Management applies across all the other dimensions. The use of HR metrics implies a system where data and information are readily available and in a form that lends itself to analysis. A quality initiative requires vertical alignment and integration, and data analysis that includes comparative and time-series measures is a major way in
which companies can evaluate themselves relative to the competition and establish the effectiveness of specific programs. The Baldrige criteria call for a broad set of data including measures of financial performance, market share, and other operational measures that can be used to demonstrate organizational success.

The focus of this paper, however, is to describe many of the human resource metrics that cut across all criteria and support the quality initiative.

**HUMAN RESOURCES IN THE BALDRIGE AWARD CRITERIA**

The application process for the Baldrige Award is time-consuming and expensive. Most companies that have won the award acknowledge that going through the award process is arduous but worth it (Blackburn and Rosen 1993). One notable exception is the Wallace Company, which won the award in 1990, but filed for bankruptcy two years later. Former CEO John Wallace stated that his company’s pursuit of the Baldrige Award led to increased production costs and long-term promotional obligations (Hill 1993).

Some companies request the Baldrige Award application materials to use the criteria to evaluate their organization, but do not apply for the award. Other companies use the Baldrige criteria to model their own quality initiatives as part of an organizational change process (Bernardin and Russell 1998). Since it appears that the Baldrige criteria are so influential, a complete understanding of the criterion dimensions and their underlying metrics would be helpful as a guide for operating managers to insure that their companies’ HRM programs and program outcomes match the underlying philosophy of quality.

While the seven Baldrige criteria are described and assessed separately, the HRM functions are linked across factors and require both vertical and horizontal strategic integration. The Baldrige Award criteria address each of these HRM functions:

1. HRM Strategy
2. Employment Planning and Work Design
3. Staffing and Selection
4. Training and Development
5. Employee and Labor Relations
6. Performance Management and Compensation
Each area is discussed below with reference to Baldrige criteria and specific HRM metrics. Baldrige Award criteria are in italics and the citations in parentheses refer to the specific criterion number in the 2005 Criteria for Performance Excellence document (Baldrige National Quality Program, 2005).

**HRM STRATEGY**

Categories 1 (Leadership) and 2 (Strategic Planning) of the Baldrige criteria relate to human resource strategy. The Leadership criterion asks how leaders create a sustainable organization (1.1.a.3), and Strategic Planning deals with development and deployment of strategy. The major HRM implication for strategy development relates to the degree to which HR managers are incorporated into the senior policy-making team. The HRM literature for the last decade makes it abundantly clear that the HR function has become increasingly strategic and that HR executives have become part of the strategic planning team by necessity. Any quality initiative should be able to demonstrate that HR managers have become full partners (Armstrong 2005; Barney and Wright 1998; Lawler 2005; Pfeffer 1994).

The Strategy Development process criteria do not directly address the HRM function, but ask who the key participants are (2.1.a.1) and call for an environmental analysis (2.1.a.2) as part of the strategic planning process. It is implied that HRM professionals be included in the development of strategy, based on the nature of the HRM components in the quality initiative and the importance of human resource capabilities in organizational strategy.

Because HR is, by definition, an operational strategy, evidence of the fit between organizational strategies and HRM practices should be, and is, reflected in the Baldrige criterion measure related to Strategy Deployment. Here the implication is the need to demonstrate the fit between overall organizational strategy and human resource strategy (2.2.a.4). The central question is how can human resources and the organization’s HRM function create value and be a source of competitive advantage? To accomplish this, the organization would have to be able to demonstrate how the employment-planning process and the design of work changed the manner in which work is done to increase employee involvement and empowered decision-making. This could also include a demonstration of redesigned compensation systems to foster team-based performance and/or performance criteria such as the Balanced Scorecard approach (Kaplan and Norton 1996), which is intended to show how strategic goals can be translated into organizational objectives and create value.
WORK DESIGN

Measures of the effectiveness of employment and work planning cut across several Baldrige criteria—most explicitly the Work Systems aspect of the Human Resource Focus, which looks at how work is arranged to empower employees and maintain flexibility and innovation (5.1.a.1). While the Baldrige criteria claim to be “nonprescriptive” (Baldrige National Quality Program 2005, p. 6), it is very clear that they do adopt a “best practices” perspective in the sense that the quality initiative embraces empowerment and cross-functional work teams. Baldrige applicants should be ready to demonstrate that the design of work is integrated with organizational strategy and that work is designed to be flexible, adaptable, responsive to change, and supportive of learning. In practice, this could mean that job descriptions are rewritten to make work more flexible and that job descriptions and grade structures have been changed to allow more cross-functional work and cross-utilization. These features would affect other HRM functions, including staffing, training, and performance management. For staffing, it might mean that the company seeks to identify applicants who are more willing to work in a team environment, who are more comfortable with less formal structure, and who are more accepting of change. Work design issues heavily affect training, because of the emphasis on cross-training and cross-utilization. Performance management systems are heavily affected, because of the need to assess skill and knowledge deficiencies for training purposes, based on the burden created by cross-utilization. In addition, the reward system aspect of performance management may need to focus on the identification of team outcomes and skill- or knowledge-based pay, rather than job-based pay.

EMPLOYMENT PLANNING, STAFFING, AND SELECTION

The Baldrige criteria focus very heavily on staffing and related issues. The major concerns involve employee recruitment methods, plans for succession, and workplace diversity.

A big part of the Work Systems aspect of the Human Resource Focus examines how the organization identifies the required knowledge, skills, abilities, and other characteristics (KSAOs) of potential employees (5.1.c.1). It also asks how recruiting, selection and retention are accomplished (5.1.b.2). To support these criteria, organizations need to be able to demonstrate how strategic objectives are reflected in applicant KSAOs. These Baldrige criteria are, in general, much less defined than others. Based on the importance of HPW systems within the Baldrige framework, however, organizations arguably should take a person/organization approach to staffing, by identifying applicants whose values map...
directly onto a quality-integrated culture. The quality initiative requires employees who are comfortable with decision-making and flexibility. The organization should be able to demonstrate how selection systems identify these characteristics in employees.

Both the Work Systems aspect of the Human Resource Focus and the Leadership criterion require that leaders deal effectively with succession planning (1.1.a.3). Institutional learning and the ability of a company not just to learn but to pass learning on to others is an integral aspect of a quality initiative. Applicant organizations should be able to demonstrate how succession planning is accomplished and the extent to which senior managers are involved.

One of the overriding themes of the Baldrige criteria is diversity. The Work Systems aspect of the Human Resource Focus looks at these issues in two ways: diversity in hiring (5.1.c.2), and using diversity in the work processes (5.1.a.2). Diversity in hiring could be demonstrated through human resource metrics that encompass traditional utilization analysis looking at applicant flow statistics for evidence of underutilization in both hiring and in workforce makeup. In addition, the company should demonstrate active affirmative action efforts through a recruiting process that identifies and explores nontraditional recruiting sources. Recruiting analysis metrics should include data on minority applications generated, positions filled on a timely basis, and other EEO-related criteria.

Diversity in the hiring processes goes beyond equal opportunity to actually embracing and valuing the potential contributions of a diverse group of employees. The management literature of recent years makes a good argument for effective diversity management, concluding that companies that value diversity receive the benefits of being able to reach alternative markets and make better decisions when the contributions of all employees are encouraged and valued (Bhawuk and Triandis 1996). Organizations applying for the Baldrige Award should be able to demonstrate how diversity is valued, including process evidence such as diversity initiatives and outcomes, including evidence of how minority employees have been successful in the development of new ideas, products, and services.

**TRAINING AND DEVELOPMENT**

The theme of individual learning is at the heart of any quality initiative and is certainly central to the Baldrige Award criteria. Learning embraces activities in all seven award criteria and measures of learning occur throughout the Baldrige
process. The *Employee Learning and Motivation* criteria ask the following:

1. How employee training contributes to achievement of action plans (5.2.a.1).
2. How training balances organizational objectives with employee developmental needs (5.2.a.1).
3. How training assessment involves seeking and using input from employees, supervisors, and managers (5.2.1.3).
4. How the delivery of training uses input from employees, supervisors, and managers (5.2.1.4).
5. How knowledge and skills learned in training are reinforced on the job and how knowledge is transferred when employees leave the organization (5.2.a.5).
6. How training effectiveness is evaluated (5.2.a.6).
7. How the company helps employees to attain job- and career-related developmental and learning objectives (5.2.b).

Learning is deeply ingrained in quality. Organizational learning embraces continuous improvement and the notion that learning has to be an everyday part of organizational life and day-to-day work (Robbins and Coulter 2005). Organizational learning relates directly to increased competitiveness through its impact on efficiency and productivity, and personal learning results in a more satisfied, flexible, and committed workforce (Robbins and Coulter 2005).

The training criteria should embrace a systems approach to the design and implementation of training programs (Goldstein 1986; Bernardin and Russell 1998). A thorough needs assessment should be completed for training programs that shows how training reinforces strategic and work-related objectives. Individual assessment should include developmental plans for individual employees. The company should be able to demonstrate how the delivery of training programs meets the training objectives and how they are consistent with quality improvement. Training evaluation should involve more than measures of employee reactions and learning; the criteria should demonstrate the cost-effectiveness of training and its impact on behavior and performance.

**EMPLOYEE AND LABOR RELATIONS**

Many different Baldrige criteria point toward establishing and maintaining
good relationships with employees. This deals with creating an overall work environment that encourages communication and information sharing and organizational commitment, but it also deals with meeting employee needs for a safe and healthy work environment. The Leadership category of the Baldrige criteria examines how organizational leaders guide the company and insure ethical behavior and social responsibility (1.1.a.2). The Employee Learning and Motivation criteria ask how training addresses needs associated with diversity, ethical business practices, and workplace safety (5.2.a.2). The Employee Well-Being and Satisfaction criteria include a Work Environment category that asks how the company ensures and improves workplace health, safety, security, and ergonomics, how employees take part in improvement of these factors, and what measures are in place to evaluate them (5.3.a.1). In addition, the company must demonstrate its level of preparation for emergencies or disasters (5.3.a.2).

Because these issues of employee well-being are common across multiple criteria, the organization must be able to show processes are in place that demonstrate a commitment to employee safety and health, extending beyond basic compliance. Certainly compliance data, such as grievance activity, OSHA complaints, or workers’ compensation claims, are important to this category, but equally important are proactive initiatives aimed at identifying andremedying workplace safety and health problems before they become problems (5.3.a.1).

The Employee Well-Being and Satisfaction criteria include an Employee Support and Satisfaction section that asks how the organization determines the key factors that affect employee satisfaction (5.3.b.1). This section includes questions about the types of services, benefits, and policies that support employees and how those initiatives are being tailored to meet the needs of a diverse workforce (5.3.b.2). Family-friendly programs, employee assistance programs, and diversity training are also evidence to satisfy this criterion.

The Employee Support and Satisfaction section also includes criteria that ask how employee well-being and satisfaction are assessed and what measures or indicators are used to improve employee well-being and satisfaction across employee groups (5.3.b.3). Measures of effectiveness here include formal satisfaction surveys that assess a broad spectrum of work satisfaction dimensions, including satisfaction with pay and benefits, co-workers, supervisors and managers, the nature of the work, and attitudes towards the organization (Henneman 1985). Ad hoc measures of satisfaction are probably less appropriate than professionally developed measures with normative data. Indirect measures of
satisfaction, such as grievance activity, absenteeism, and turnover data, are also important to this category.

The *Employee Well-Being and Satisfaction* criteria include an *Employee Support and Satisfaction* section, asking how assessment findings are related to business results to identify priorities for improving the work environment and employee support (5.3.b.4). The company must be able to show not just that information was obtained, but that a systematic analysis of data resulted in action plans for improvement and generated specific programs and initiatives for improving the work environment.

**PERFORMANCE MANAGEMENT AND COMPENSATION**

Performance management is another theme that crosses all Baldrige criteria. Embedded in the quality initiative is the notion that measurement is vital for continuous improvement, and the normative premise that performance deserves to be rewarded. The *Leadership* criterion requires that senior managers take an active role in employee recognition programs and create and sustain an environment for performance improvement (1.1.b.1). The *Leadership* criterion also deals with governance and puts an emphasis on evaluating the performance of senior managers (1.2.a.2). The *Strategy Deployment* criterion includes key performance measures or indicators that derive from strategic plans (2.2.a.5), while *Customer Relationships and Satisfaction* criteria ask how the organization determines customer satisfaction and dissatisfaction (3.2.b.1). This could include measures built into appraisal mechanisms.

The *Work Systems* criteria ask how employee performance management systems support high performance work (5.1.b) and a business focus (5.1.b), while the *Employee Learning and Motivation* criteria ask how employees are motivated to develop and use their full potential (5.2.b). Similarly, the *Work Systems* criteria question how the reward and incentive system reinforces high work performance and a customer and business focus (5.1.b).

Two major implications exist for the compensation system. First, the reward system must demonstrate that senior managers are held accountable for creating an environment that values and sustains performance and that they hold others responsible for assessing and evaluating individual and organizational performance. Second, the compensation system must be strategic and flow directly from the work systems. The compensation system should be geared towards rewarding knowledge such as skill and competency attainment, and it should
embrace the HPW system concepts through team-based incentives and linkages to customer satisfaction.

HRM AND RESULTS
The Baldrige criteria have many implications for human resource managers in a quality environment. Specific HRM responsibilities appear in several criteria, and the importance of HPW practices is reinforced throughout the Baldrige framework. The Business Results section of the Baldrige Award process accounts for about half of the available points, and the Human Resource Results section is an important part of this category. This section requires applicants to demonstrate key HR results and comparative data for work system performance (7.4.a.1), employee development (7.4.a.2), and employee well-being and satisfaction (7.4.a.3). These results must relate to the organization’s process needs identified in Category 6 and must be segmented to address workplace diversity.

CONCLUSION
Any organization considering applying for the Baldrige Award or even those who want to benchmark their quality initiative based on comparisons to the Baldrige criteria would do well to understand the HRM implications. The Baldrige criteria and the quality initiative require not just different work processes, but a reconceptualization of work and a fundamental shift towards employee-centered management, where human resources are viewed as a competitive advantage. Organizations that have been awarded Baldrige recognition have generally embraced HPW practices and have come to recognize that the quality initiative requires a substantial investment in the workforce and, occasionally, a major cultural change in order to adopt the Malcolm Baldrige criteria.

These changes do not come easy. Researchers in HRM have been quick to emphasize that while benchmarking of HPW practices is commonplace among organizations, successful adoption and diffusion is not. HRM researchers caution that while companies find it relatively easy to copy isolated HPW practices, the results are often not remarkable, because the complexity of organizational cultures and values and the synergistic impact of practices within this organizational context make it difficult to see and to understand which HPW practices are responsible for creating a competitive advantage (Barney and Wright, 1998; Pfeffer, 1994). This implies that managers need to be able to fully understand the nature of this complexity and causal ambiguity in order to go beyond simple benchmarking of Baldrige-consistent practices.
REFERENCES


Quality: A Customer Perception

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INTRODUCTION
Somewhere amidst big hair bands, Pac-Man fever, and the fall of the Berlin Wall, a fundamental shift in business thinking occurred: businesses came to realize that customers—more to the point, customer perceptions—define quality. Customer perceptions, not necessarily the objective or internally defined performance of a business and its offerings, matter most.

During the 1980s an entire academic research stream in service quality took root. The early service quality work (dominated by three researchers: Leonard Berry, Valarie Zeithaml, and A. Parasuraman) changed how businesses view, understand, deliver, and measure quality. Previous to this, quality was overwhelmingly viewed from an internal (engineering, zero-defects) perspective. And while such a view may have worked when America’s economy was manufacturing-driven, the shift to a service-based economy made it apparent that internal notions of quality ignored the one component that truly mattered—the customer. Today’s businesses understand that quality judgments stem, pure and simple, from customers.

Given today’s understanding of quality, this manuscript will explore the importance of delivering quality and the evolution of quality as a perception. Next, service quality research will be explored and the most commonly used conceptual and measurement model outlined. Finally, the importance of employees in delivering service quality will be addressed before concluding and offering a look toward the future, including suggested areas of research.

THE IMPORTANCE OF QUALITY
Quality is one of the most common topics in business literature in the past two
decades. A cursory search of Amazon.com reveals over 26,000 books published on quality since 1985. Further, prominent awards (e.g., state quality awards, Malcolm Baldrige National Quality Award) are now bestowed upon businesses perceived as quality leaders. Service quality has become a key marketing tool toward achieving competitive differentiation and customer loyalty (Zeithaml and Parasuraman 2004). In fact, quality is one of the two primary components of customer value—and value judgments drive consumer purchasing behavior (Gale 1994; Walker 2003).

Beyond anecdotal evidence, empirical findings illustrate the importance of quality. In 1991 the U.S. General Accounting Office undertook a study of over 20 companies that were either finalists or winners of the Baldrige award in the three prior years. They found that these “quality” firms benefited in terms of market share, sales per employee, return on sales and return on assets in subsequent years. In fact, 34 of 40 financial variables measured in previous years showed positive performance improvements (Zeithaml and Parasuraman 2004). Research using the nationally known PIMS dataset demonstrates that businesses perceived as providing higher quality are afforded premium pricing opportunities, larger market shares, higher net margins, higher return on investment and sales, and have superior cash flows (Gale 1994). PIMS research also reveals that firms with the lowest perceived quality actually have higher relative cost structures than those with the highest perceived quality; in other words, it costs more to provide poor quality than it does high quality (Gale 1994). Cronin and Taylor (1992) found a positive correlation between service quality and customer purchase intentions. Boulding et al. (1993) also found customer perceptions of quality were positively related to intentions to repurchase, and with spreading positive word-of-mouth. In a recent review of empirical evidence, Zeithaml and Parasuraman (2004) found that favorable quality perceptions lead customers to prefer a firm over competitors and to increase their purchase volume. They also found favorable quality perceptions increase customer retention, profits, and enhance a firm’s reputation and ability to command premium prices. Providing quality that customers perceive has marketplace benefits.

TOWARD QUALITY AS A CUSTOMER PERCEPTION

Today, service providers dominate the business landscape, and not only in the United States. While it is well known that services dominate America’s economy it is also true that they account for more than half of the GDP of Egypt, Japan, Mexico, South Africa, Canada, Australia, Brazil, France, and the United King-
dom (Zeithaml and Bitner 2000). This change in economic landscape is important, because services differ from manufactured goods in important ways. Services by their very nature are intangible and vary in their delivery. Further, their production and consumption are often inseparable, with consumers frequently involved in the service’s production. “Unlike goods quality, which can be measured objectively by indicators such as durability and number of defects, service quality is an abstract and elusive construct” (Zeithaml and Parasuraman 2004, 5). And it was this emergence of service-based economies, full of practitioners selling increasingly intangible offerings, that brought the need to understand “quality as a perception” to the forefront of business thinking.

Historically, quality was defined internally (technical, engineering-based). Objective quality, manufacturing-based quality, or conformance quality as it has been called, is concerned with the extent to which a product conforms to technical standards (Oliver 1997; Kasper, Helsdingen, and Vries 1999). In such approaches, quality is measured objectively, in terms of the number of defects or deviations from a standard. For example, manufacturing a particular hex nut to exacting standards, those defined by mechanical engineers perhaps, could be considered high quality. Yet, if buyers of that particular hex nut don’t recognize the quality engineered into it, would it still be considered a high quality item? Using solely an internal notion of quality, of course it would be, but the marketplace benefits afforded higher quality firms stem from what customers perceive and not necessarily what engineers design.

To illustrate the importance of quality as a perception, consider Ford Motor Company’s situation. In an attempt to design a truck appealing to consumers wanting a sportier pick-up, Ford built one that, among other things, accelerated faster than did its major competitor’s offering. And while objective measures revealed that Ford’s truck did accelerate faster, consumers did not perceive that reality. Ford conducted consumer research and discovered that this perception existed because their competitor’s exhaust system was louder, there was a slight pause before acceleration, and the seat deflected backwards upon acceleration (Gale 1994). And while for most consumers having a louder exhaust, a hesitation when stepping down on the foot pedal, and a seat not securely fastened would be indicative of inferior quality, in this particular case it added up to perceived superior acceleration. So the question becomes, from the customer’s point of view, which truck accelerated faster? And the answer is: the truck that customers perceived as accelerating faster! As Schneider and White correctly note, “quality is high when customers say it is” (2004, 10).
To address such problems, Parasuraman, Zeithaml, and Berry began an entirely new research stream, in the mid 1980s, that allowed quality to be determined by perceptions of end-users. The impetus of their original service quality research was primarily two-fold: to determine how customers—rather than firms—assessed quality, and to develop a survey-based tool to measure customer judgments of service quality. Their work resulted in a conceptual model of service quality and a quantitative service quality measurement tool appropriate for firms of all types (for an explanation of the development process see Parasuraman, Zeithaml, and Berry 1985, 1988; Zeithaml and Parasuraman 2004).

**SERVICE QUALITY**

The dominant line of service quality research is known as SERVQUAL, which refers to both a conceptual model used by businesses to understand how to increase customer perceptions of quality (see Figure 1) and a measurement instrument. SERVQUAL is commonly referred to as the “gaps model,” which comes from the notion that closing gaps at all model stages will help deliver higher perceived quality. The conceptual model consists of four management-side gaps and one consumer-side gap. The four management gaps are those a business can
control, while the consumer gap—the one that actually measures perceived quality—is external to the firm.

SERVQUAL has been used in a variety of contexts, including real estate brokerage firms (Johnson, Dotson, and Dunlop 1988), discount and department stores (Finn and Lamb 1991; Teas 1993), hospitals (Babakus and Mangold 1992; Carman 1990), higher education institutions (Boulding et. al. 1993) accounting firms (Bojanic 1991), and banking, pest control, dry cleaning, and fast food companies (Cronin and Taylor 1992). And while SERVQUAL—in particular the measurement tool—has its detractors (e.g., Brown, Churchill, and Peter 1993; Teas 1993, 1994), this model is widely accepted and practiced today. Twenty years of SERVQUAL use, assessment, and refinement have shown it to be a robust measure of perceived service quality (Zeithaml and Parasuraman 2004).

Service quality has been formally defined as the degree and direction of discrepancy between a customer’s service perceptions and expectations (Parasuraman, Zeithaml, and Berry 1985). And it is a perceived quality—a quality different from objective or actual quality in that it is a higher level abstraction—a more global judgment (Zeithaml 1988). Today, for both goods and services, the concept of perceived quality is broadly defined as superiority or excellence (Zeithaml 1988). It is the result of the difference between a customer’s expectations of a service and his/her perceptions of service performance (Zeithaml and Parasuraman 2004). While several types of expectations have been identified (e.g., normative, adequate, active, passive, desired, predicted [Oliver and Winer 1987; Oliver 2000; Schneider and White 2004]), service quality judgments result from a disconfirmation of expectations of excellence (Schneider and White 2004). In other words, expectations are formed when thinking about the perfor-
mance an excellent service provider delivers. Service quality expectations are often operationalized as desired expectations, a blend of what customers believe “can be” and “should be” provided (Zeithaml, Berry, and Parasuraman 1993). Figure 2 illustrates service quality’s disconfirmation model with expectations conceptualized as desired expectations.

Management-Side Gaps

As illustrated in Figure 1, gap one is the difference between customer expectations and management’s perceptions of them. For example, a customer might expect a high quality retailer to offer speedy checkout service. The extent to which that retailer does not recognize or correctly understand this expectation leaves a potential gap. Truly understanding what customers expect is at the heart of gap one. Not understanding customer expectations can launch an entire chain of decisions that results in perceptions of poor service quality (Zeithaml and Parasuraman 2004).

Gap two is the difference between management perceptions of customer expectations and how a firm plans to meet such expectations. Continuing the above example, if a customer expects to wait no more than five minutes in a checkout lane while the service quality specification calls for opening a new checkout lane when more than three customers are in line, there is the potential for a gap. To meet customer expectations, perhaps the service quality specification should be to open a new lane when more than two customers are in line or when checkout clerks notice a customer standing in line for several minutes. Regardless, when a firm does not plan the correct service quality specification, a gap exists.

Gap three is the difference between service quality specifications and actual service delivery. This gap could be illustrated by having a service quality specification “to open a new checkout whenever there are more than three customers in a lane,” yet in practice only opening a new lane when more customers are waiting. The practical realities of delivering service specifications—as service delivery is often heavily immersed in human performance—leave the possibility for a gap to exist.

Finally, gap four is the difference between actual service delivery and what the firm communicates will be delivered. This gap is illustrated by a firm advertising that they will open a new checkout whenever more than three customers are in a lane, and then they do not do it. Firms must match promises made to customers with actual performance to reduce the size of this final management side gap.
Firms have the ability to reduce all four management gaps—and those that want to deliver high perceived quality should try to eliminate, or at least shrink as much as possible, each gap. For example, activities that help firms better understand customer expectations, such as consumer research, direct daily contact with customers, and open communication between front-line personnel and management, can reduce gap one. Gap two can be reduced by designing specifications derived from customers, rather than the more frequently used internal productivity/efficiency perspective and by having management committed to communicating with and training employees about service quality specifications. Gap three can be reduced by ensuring front-line employees have the necessary abilities and are empowered to deliver service quality specifications, and by nurturing an organizational culture that is truly customer-focused. Even firms adopting service quality specifications that accurately reflect customer expectations can fall short if their organizational system does not support and reward employees for delivering them. Finally, gap four can be reduced by ensuring a firm’s communication agencies (e.g., sales people, advertising agencies, and web page designers) are aware of service quality specifications. Because a firm’s communications shape customer expectations, if such messages are not aligned with what a company actually delivers, quality perceptions will suffer (for an in-depth exploration of reducing the four management side gaps, see Zeithaml, Berry, and Parasuraman 1988).

**Consumer-Side Gap**

The gap illustrating where quality perceptions are actually made is the consumer-side gap. This gap, the fifth, is the difference between customer expectations (desired) and their perceptions of a firm’s performance. Known as the service superiority gap (Zeithaml, Berry, and Parasuraman 1993), it is driven by five fundamental dimensions or factors (Parasuraman, Zeithaml, and Berry 1985). These five dimensions—reliability, tangible evidence, responsiveness, assurance, and empathy—underlie customer judgments of quality in all services. In other words, these dimensions are used by customers when making quality judgments about services as diverse as pet training, day care, medical procedures, banking, legal advice, and haircuts.

Reliability, which has consistently proven to be the most important driver of service quality perceptions, is a customer’s judgment about a firm’s ability to perform the promised service dependably and accurately (Zeithaml and Parasuraman 2004). Tangible evidence is a customer’s judgment about a firm’s physical facilities, equipment, personnel, and communication materials. Because services
are less tangible, customers use tangible cues in the environment to make quality judgments. Responsiveness is a customer’s judgment about a firm’s willingness to help them and provide prompt service. Assurance is a customer’s judgment about a firm’s employees’ knowledge and courtesy, along with their ability to inspire trust and confidence. Empathy, the fifth and final dimension, is a customer’s judgment about the firm’s caring for him/her, along with the individualized attention provided (Zeithaml and Parasuraman 2004).

The Measurement Tool
To measure gap five, Parasuraman, Zeithaml, and Berry (1985) developed a 22-item survey tool (see Appendix A). The items correspond to the five fundamental dimensions outlined previously. The original SERVQUAL scale is a two-part survey asking respondents to first identify their expectations and then perceptions of performance for an individual firm on the 22 items (Zeithaml and Parasuraman 2004). As before, the extent to which a firm’s perceived performance fails to meet customer expectations represents a gap and a firm’s goal is to eliminate the gaps or make each as small as possible. For example, if a customer desired 100% accurate billing and perceived a firm was delivering it, there would be a “zero gap.” On the other hand, if that same customer perceived numerous billing errors there would be a gap of some magnitude—with performance falling below desired expectations. The 22 items can be analyzed by individual gap scores or by aggregating them to represent the five dimensions or an overall gap score. And because the instrument was developed to apply to a wide range of services, it can be modified to fit the characteristics or specific research needs of particular organizations (Parasuraman, Zeithaml, and Berry 1988).

The original SERVQUAL scale has been modified to include an additional customer expectation type: adequate expectations (see Figure 3). Adequate expectations represent what customers believe is a lower, yet acceptable, level of service (Zeithaml, Berry, and Parasuraman 1993). For example, while a customer may desire to be seated immediately at a restaurant, it would be adequate (acceptable) to be seated within 15 minutes. Between these two expectation types is a zone of tolerance—a conceptual area between desired and adequate expectations where consumers allow providers “performance leeway.” In other words, although consumers may desire a higher level of performance, performing at or above adequate expectations is acceptable. The zone of tolerance has been empirically demonstrated to be narrower on dimensions most important to customers (Walker and Baker 2000). Modifying the SERVQUAL scale by adding adequate expectations results in a second service quality measurement—service
adequacy. When perceptions of performance fail to meet adequate expectations, firms should concentrate resources on that dimension before attempting to close service superiority gaps.

THE EMPLOYEE ROLE IN DELIVERING PERCEIVED QUALITY
Besides forcing businesses to rethink quality from a customer’s point of view, the shift to a services economy also brought renewed focus on employees—and for good reason. Service-quality experts note that customer-service employees have a tendency to model externally the treatment they receive from their own company (Kiger 2002). Customer interactions with employees have a significant impact on quality perceptions, and if firms want their customers to be treated well they must first treat employees well. Firms must create organizational cultures that value and empower employees to deliver quality service. As Schneider and White observe, “the internal functioning of an organization with respect to service has often been found to be reflected in customers’ perceptions of the quality of service they receive” (2004, 107–108).

One useful model for organizations that want to create satisfied employees is the cycle of success (see Figure 4). This model, developed by Schlesinger and Heskett (1991), illustrates that organizations with an employee focus (demonstrated in part by paying above-average wages and spending significant effort selecting and training employees) are rewarded by having happy employees taking
care of customers. Leading organizations—quality organizations—seek to hire, retain, train, develop, empower, reward, and satisfy employees interacting with their customers, as those employees are the window through which customers perceive quality. According to Kiger (2002), service quality experts claim that hiring is not only the first, but also the most critical, step in building a customer-friendly organization. Further, it’s no surprise that Fortune’s annual “100 Best Companies to Work For” list is loaded with firms that invest heavily in training employees. Employees are drawn to companies that invest in them and the organizational rewards go beyond the obvious increased pool of potential employees to select from; rewards are also found in more favorable customer perceptions, because customers are served by a better trained, happier workforce.

In the end, empirical research leaves little doubt that customer perceptions about an organization are tied to the way employees perceive their own organization (Schneider and White 2004). Based on the behaviors and activities for which employees receive rewards and support, they develop a summary sense of the answer to the question “What is important around here?” and the answer to this represents an organization’s climate or culture (Schneider and White 2004, 93). If delivering quality is important and that happens through employees, it must be rewarded and supported. And because negative encounters are more strongly
remembered than positive ones (Oliver 2000), having satisfied and happy employees is crucial for positive customer/employee interactions. As unfortunate as it might be, the truism that a business’s internal problems rarely stay internal for long—customers feel their effect via disgruntled employees—is noteworthy for firms wanting to deliver quality perceptions. The process of delivering quality, a customer perception, begins long before a customer enters the front door.

CONCLUSION AND A LOOK TO THE FUTURE
From a customer standpoint, quality is one of those things that “you know when you see,” but that doesn’t offer much guidance for businesses trying to deliver quality. Fortunately, the work of Zeithaml, Parasuraman, and Berry, which took root twenty years ago, helps one understand how to deliver and measure quality perceptions today. While the world was simpler when firms could define quality solely from their own internal perspective, that’s not the way the marketplace works. Customers define quality. And the research clearly shows that when customers perceive quality, it has its rewards.

So where do we go from here? Because quality is defined by customers, expanding marketing’s customer-focus orientation into other business functional areas (e.g., human resources, production, and finance) is a good place to start. While marketing’s historic external focus (i.e., customers) will continue, an internal focus—one that helps integrate a customer orientation throughout a firm—is necessary today. Especially important is for marketing to play a larger role helping the human resource function better select, train, and retain employees able to deliver quality perceptions. Long term, businesses need to develop organizational systems that create and reward a climate focused on meeting customer expectations.

Today’s understanding of quality as a perception positions employees as integral in delivering quality. Research into employee characteristics and skills, therefore, is most likely to help an organization deliver quality; empirical work on how to recruit such employees is also needed. As the marketing field expands its influence into the human resources area specifically, research exploring methods of selecting, training, and retaining employees able to deliver quality perceptions should prove fruitful. Seminal research on customer satisfaction and loyalty by Jones and Sasser (1995) demonstrates that many satisfied customers exhibit “false loyalty” and remain loyal only until a better opportunity comes along. It seems reasonable that the same type of relationship, while untested, would hold true for employees. And with employees being “the window through
which customers perceive quality,” it is obvious that having satisfied, committed employees rather than “falsely loyal” ones is paramount to delivering quality. Employee-retention metrics alone, while they are one indicator of employee satisfaction, ignore the possibility that employees could be loyal simply because of perceived high switching costs. And thus research pinpointing desirable employee characteristics and how to create truly loyal, customer-focused, employees is warranted.

Years ago, before the entire quality as a customer perception movement took root, Phillip Crosby (1979) wrote a landmark book entitled “Quality Is Free.” That book outlined his experiences in the quality field and advanced, in part, a “do things right the first time” approach. Reducing scrap and the need for rework increased bottom line measures. Rather than fixing something after a problem surfaced, doing things the right way before creating a problem was a better approach. And that approach, then as today, is appropriate. However, work in the quality field since the days of “quality being free” has led us to understand that doing things right the first time implies understanding customers’ expectations. The SERVQUAL model clearly shows, in both the conceptual model and 22-item measurement tool, that understanding customer expectations is the starting point for delivering perceived quality. Today, doing things right the first time means starting the quality journey with understanding customer expectations—beyond that, to sustain the journey, firms must hire and retain customer-focused employees, because quality truly is a customer perception.
REFERENCES


Appendix A

(partial representation of the original SERVQUAL scale)

SERVQUAL contains 22 questions tapping the five service quality dimensions. Respondents first identify their expectations and then rate their perceptions of performance on the same 22 items. Both sections use a 7-point strongly disagree/agree scale. Following is the complete expectations section followed by a partial performance section (note that the five dimensions of service quality are embedded in the survey instrument: Items 1-4, Tangibles; 5-9 Reliability; 10-13 Responsiveness; 14-17 Assurance; & 18-22 Empathy).

Expectations Section
1. Employees of excellent _____ companies will be neat appearing.
2. The physical facilities at excellent _____ companies will be visually appealing.
3. Excellent _____ companies have modern-looking equipment.
4. Materials associated with the service (such as pamphlets or statements) will be visually appealing in excellent _____ companies.
5. Excellent _____ companies will perform the service right the first time.
6. When excellent _____ companies promise to do something by a certain time, they will do so.
7. Excellent _____ companies will insist on error-free records.
8. Excellent _____ companies will provide their services at the time they promise to do so.
9. When customers have a problem, excellent _____ companies will show a sincere interest in solving it.
10. Employees of excellent _____ will give prompt service to customers.
11. Employees of excellent _____ will always be willing to help customers.
12. Employees of excellent _____ companies will tell customers exactly when services will be performed.
13. Employees of excellent _____ companies will never be too busy to respond to customer requests.
14. The behavior of employees of excellent _____ companies will instill confidence in customers.
15. Employees of excellent _____ companies will be consistently courteous with customers.

16. Customers of excellent _____ companies will feel safe in their transactions.

17. Employees of excellent _____ companies will have the knowledge to answer customer questions.

18. Excellent _____ companies will have operating hours convenient to all their customers.

19. Excellent _____ companies will have employees who give customers personal attention.

20. Excellent _____ companies will have the customers’ best interests at heart.

21. The employees of excellent _____ companies will understand the specific needs of their customers.

22. Excellent _____ companies will give customers individual attention.

**Performance Section**

1. XYZ’s employees are neat appearing.

2. XYZ’s physical facilities are visually appealing.

3. XYZ has modern-looking equipment.

   Etcetera…

INTRODUCTION
This is a preliminary field study that investigates the factors affecting information technology (IT) development in Paraguay. The Republic of Paraguay is a poor country in South America that IT has been slow to pervade, and we wondered why. Through interviews with Paraguayan professionals in IT, several factors were identified: poor economic condition of the country, poor infrastructure, and managerial ineffectiveness at implementing IT systems. Respondents mentioned no purely social factors.

METHODOLOGY
The project was originally designed to collect a large number of surveys from IT professionals and professors from organizations in Paraguay. This was difficult because there was not an available source of Paraguayan IT organizations in the U.S. The principal contacts we developed were from universities, because they were easier to contact; contact information was available online. The questionnaire used is printed in Appendix 1.

In Paraguay, interviews were conducted with individuals (primarily deans) at universities. References were solicited to acquire more possible interviewees. Several businesses were called, but this did not prove to be a very effective means of procuring interviews. An IT professional with the U.S. State Depart-
ment responded and provided references. In total, eight interviews were conducted.

Before the interview, respondents were informed of the nature of the study and asked to sign a consent form. They were given three options regarding the use and anonymity of their answers to questions. With consent, the interviews were audio recorded, with each interview lasting approximately 45 minutes. After the first interview, some slight modification to the questionnaire was made, changing the scale used in questions seven through fourteen. The scale was changed from a ranking of importance to “1: greatly inhibits IT development” to “10: greatly promotes IT development” with “5: does not have a significant effect of either inhibiting or promoting.”

RESULTS
Recent IT Growth
In the last few years, IT has begun to expand in Paraguay. Internet cafés have appeared in many downtown areas, but Internet access is still fairly limited. These cafés tend to be located near high schools, universities, and shopping malls. The majority we observed had three to six computers and were 50–75% occupied. All ran Windows operating systems ranging from Windows 98 to Windows XP. The software available at the cafés varied greatly. A few had adopted open source applications, such as OpenOffice.

Interview respondents also stated that the use of IT has grown in recent years. Businesses are using it more. Even some microbusinesses have begun using computers in their operations. Some private organizations (business and nonprofit) have set up their own intra-city fiber optic networks.

Yet, despite this progress, IT development is slow. Few families own computers. Adults tend to have very limited, if any, computer abilities. Interview respondents did note that younger people, especially students, are much more computer-literate.

What Drives IT Development in Paraguay?
The most popular response was that the world is pushing IT forward. Respondents noted that IT continues to develop in industrialized countries and that this pulls Paraguay along. As Moore’s law increases computing power and drives relative prices down, less-developed countries can acquire older technologies very inexpensively (although this will make them perpetual followers).
Another major driver was competition. Increasing globalization has created a “modernize or die” situation. Mercosur, a trade bloc of several South American countries in the Southern Cone region, has forced Paraguayan businesses to compete directly with Argentinean and Brazilian firms.

What Inhibits IT Development in Paraguay?
The most notable responses regarding the major inhibitors were: economic condition of country made IT too expensive, poor infrastructure, and managerial ineffectiveness. Managerial ineffectiveness was interesting because it was not identified as a possible reason before the beginning of the project and therefore did not have a scaled question associated with it.

SPECIFIC FACTORS IN DETAIL
Managerial Ineffectiveness
An unexpected result was the identification of managerial attitudes toward IT. When asked what factors impede IT development in Paraguay, the three respondents most involved with private business identified management’s ineffectiveness. All three of these respondents stated that management views IT solely as a cost and not as a strategic investment. Management considers IT to be a necessary evil.

During the late 1990s and early 2000s, Paraguay experienced its own tech boom. An IT consultant stated that a lot of systems were developed during the hype. Management spent a lot of money but didn’t plan the IT with the company’s strategy resulting in large, expensive systems that didn’t work. This has tainted their view of the importance of IT.

A director of sales for a technology company stated that executives and managers do not understand IT and therefore try to get it cheaply. This results in low investment in IT with a lot of “mediocre systems.” Simply put, “they don’t want to pay for quality.” Poor quality creates poor systems that do not serve the long-term needs of the business and reinforces management’s attitude that IT doesn’t work and is just an expense. This fosters a self-fulfilling prophecy.

Economic Conditions/Poverty
The economic condition of Paraguay was always mentioned as one of the major factors that affects IT development. Although this was always mentioned, there were several minor differences. Some saw it as an exchange rate problem that the dollar (and therefore the majority of hardware and software) was too
expensive. Others related that the common person did not earn enough to buy a computer.

Although the cost of IT hardware has continued to drop according to Moore’s Law, the income of the typical Paraguayan does not usually lend itself to purchasing a computer. Public Internet access is also relatively expensive. Although it usually only costs between Gs. 3,000–5,000 per hour (~$.55–$.91), this is substantial considering the low income level. In all regards, Paraguay’s struggling economy has greatly inhibited IT development.

**Infrastructure**

Paraguay’s information technology infrastructure has some positive points in a generally negative area. For example, COPACO, the government-owned landline telephone company, has a fiber optic backbone that runs along the principal highways between Asuncion, Ciudad del Este, Encarnación, and is also being extended north. Areas not close enough to link to the backbone use microwave transmissions to hook into it. Within the cities, there are some fiber rings, including several proprietary ones. This would give the illusion that Paraguayans should have access to high-speed broadband Internet, but that is generally not the case.

COPACO is one of the most inefficient phone companies in South America. A few of the individuals that responded stated that this is because of their former status as a state monopoly. Some suggested that COPACO doesn’t understand marketing. Although they have made some strides in decreasing the cost of establishing a landline phone connection to a house, they have not advertised sufficiently and the cell phone companies have taken market share. Cell phones have a phenomenal 35% penetration, according to a representative of an IT firm in Paraguay. Furthermore, the fiber backbone is reserved for phone transmissions and does not currently support Internet use. To exacerbate the situation, the national Internet link is through satellite. Some respondents expressed dissatisfaction that the fiber rings in the border cities are not connected to Brazil and Argentina, which would eliminate the need for the expensive satellite connection.

The high cost of satellite discourages Internet service providers from purchasing extensive spectrum, resulting in slow connections across the country. It was reported that only one company has a T1 connection, so the physical infrastructure is not being used to capacity. As one university official put it, “We have fiber but we still don’t have broadband. What we need is affordable broadband.”
Another, less-mentioned area of poor infrastructure was the price of electricity. The world’s largest hydroelectric plant (soon to be surpassed by China’s Three Gorges) was a joint venture between Paraguay and Brazil. It is estimated that all of Paraguay’s power needs could be met by one-half of a single turbine’s output (the plant has 18). Some respondents felt that the high cost of energy discouraged IT development. The high price could truly be a rent-seeking activity of the government, or may be set to market prices they can obtain from resale of excess energy to neighboring countries (namely Brazil).

**Private Computer Ownership**

All respondents felt this hindered IT development in Paraguay, but that it was a less important factor than poverty and infrastructure. This was not a major concern because it is so closely related to the economic condition. Several respondents said that nonprofit projects to teach computer literacy would have a positive effect. Several examples of the benefits of free computer access were mentioned.

**Piracy**

Piracy received mixed responses. Some individuals stated that it provides a cheap alternative to foreign software that would otherwise be unavailable. One interesting response from an IT professional stated that it has an incredibly negative effect because it creates an attitude of disrespect for intellectual property. Without a widespread acknowledgement of intellectual property rights, IT development suffers because there is no incentive. This is actually in accordance with general economic growth theory that true economic growth cannot occur until there is a *functioning* legal framework to reward inventors and innovators.

Many expressed frustration at foreign, particularly U.S., companies that bundle products and maintain high prices. They feel that the foreign companies are making unreasonable demands for their economic condition and that there is little choice for them.

**Technical Abilities**

In terms of technical expertise in the profession, the respondents were divided. Although this was not an actual question, their view was revealed during various questions. Some feel that Paraguayan IT administrators and programmers are just as skilled as their U.S. and European counterparts. Some even recommend that Paraguay be considered a source of cheap labor, much like India. Others stated that there are a few good Paraguayan systems, but the majority are deficient.
Government
Reponses were varied regarding the governments’ (both local and national) effect on technological development. Most said that the government does not hinder or promote IT, as they do not appear to take any major measures. Those that did feel that the government hinders IT development referred to their poor administration of government-owned industries, namely COPACO.

Social Factors
Nearly every respondent stated that there were few or no social factors affecting IT development in Paraguay. One respondent, however, stated that some social factors included conformism: Paraguayans were accustomed to listening and repeating and were afraid to think, imagine, and create.

IMPLICATIONS FOR PRACTITIONERS
One of the greatest concerns identified by the surveyed IT professionals was management’s perceptions of IT as a cost. The necessity of incorporating IT into a business’ strategic plan is mentioned in Management Information Systems textbooks, but this does not appear to be sufficient. It may be beneficial for IT professionals to become more actively engaged in training management in business schools and through professional seminars. Furthermore, IT professionals should become aware of how to communicate with nontechnical communities about the benefits and limitations of systems. It is essential to manage expectations to ensure that they are realistic, or the business community will be disappointed when systems do not magically make their businesses more profitable.

This study also identified possible business opportunities. Many developing countries, such as Paraguay, are attempting to develop skilled workforces that can compete for outsourced work. This creates a market for highly skilled professionals that have the ability to teach these skills to others. Several small businesses have already begun tapping this market in Paraguay and other opportunities may exist in countries with similar conditions.

Another business opportunity is opening new markets to Internet content. Technologically, the greatest inhibitor for Paraguay is the necessity of satellite links to connect the country to the World Wide Web. If the government could be persuaded to connect the intra-country fiber optic networks across the border to either Argentina or Brazil, the entire country could quickly be broadband-enabled. This relatively minor undertaking would open the entire country to e-commerce. It is entirely possible that other countries around the world have
an established intra-country network that only lacks an inexpensive, reliable, broadband connection to the rest of the world.

LIMITATIONS OF STUDY
It is important to remember that this paper was prepared based on rather detailed interviews with a small number of people. This limits the results to primarily qualitative evidence. Although this type of data has an important place, especially in high level, preliminary investigations, it should be supported by more detailed quantitative data in the future. Furthermore, the small number of interviews increases the likelihood that this study does not accurately represent the views of the majority of IT professionals.

FUTURE CONSIDERATIONS
This study confirmed that some Paraguayans feel that the IT infrastructure, management’s attitude toward IT, and poverty were important factors. Each of these could be researched individually. The first and last would be the easiest for quantitative studies. An interesting study could also be done on differences in perspective between academics and industry. For example, it appeared that the differences between perception of the technical abilities of Paraguayan programmers was roughly on lines of academics vs. industry, although the sample was far too small to make any type of preliminary judgment. Such a study on views of industry vs. academics would be helpful to Paraguay, because it could help bridge the discrepancy between business needs and the training that educational institutions provide.
Appendix 1

___ 1) Non-anonymous Quotations: I authorize quotes to be taken from my responses with your name attached in the analysis of the results that will become publicly available in print or on-line?

___ 2) Anonymous Quotations: I authorize quotes to be taken from of my responses without my name attached?

___ 3) Anonymous, Aggregate Data Only: I authorize the responses I provide only to be included in the aggregate data and do not authorize any direct quotations or paraphrases?

Survey ID# _______________ (do not write in gray area)
Permission 1__ 2__ 3__

Interview/Survey Questions:

1. What is your occupation?

2. In your opinion, what is Paraguay’s general condition regarding information technology? How does this compare with Argentina? Brazil? Europe? The United States?

3. Describe the spread of information technology you have seen in the last 3 years? (Public access to Internet, Households owning computers, Computer literacy among youth and adults, E-mail, Cell phones, etc.)

4. What are the two or three factors that are positively affecting the development of information technology in Paraguay? Explain

5. What are the two or three factors that are impeding information technology development in Paraguay? Explain

6. How do you feel these positive and negative factors will interact in the future?

7. On a scale of 1-10 (1 little importance, 10 great importance), how do you feel the widespread poverty negatively affects information technology development in Paraguay? Explain why you feel that way.

   1  2  3  4  5  6  7  8  9  10
8. On a scale of 1-10, how important is Paraguay’s infrastructure to IT development? Does Paraguay’s current infrastructure help or hinder IT development? Explain.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

9. On a scale of 1-10, how does the general lack of household computers affect IT development in Paraguay? Why?

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

10. On a scale of 1-10, how much does pirating (software and/or hardware) affect IT development in Paraguay? Does pirating have a positive or negative effect on IT development here? Explain.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

11. On a scale of 1-10, how much effect has the national government (national and local) had on IT development? Has this been positive or negative? Explain.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

12. On a scale of 1-10, how much effect has the local (departmental and municipal) government (national and local) had on IT development? Has this been positive or negative? Explain.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

13. On a scale of 1 to 10, how great an impact does a desire to meet face to face affect IT development in Paraguay? (E.g. avoidance of e-mail in order to meet in person) Explain.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

14. On a scale of 1-10, how has ________________ (any new cause you mentioned in question 5 or 6 that has not been addressed in a scaled question) affected IT development? Explain.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

15. In your opinion, which computer skills should grade school children learn? Do Paraguayan grade schools teach these skills? Explain.

16. In your opinion, which computer skills should be taught in high schools? Do high schools teach these skills? Explain.
17. Different occupations require different amounts of computer training. Do you feel that trade schools and universities teach all of the computer skills that their students will need in their chosen occupations? Explain.

18. How important is computer literacy? Why? What needs to be done to help academic institutions teach computer skills?

19. Are you familiar with SNPP (Servicio Nacional de Promoción Profesional, National Service of Professional Development)? How great an impact do they have? What could be done better?

20. Do you feel there are any cultural factors that uniquely affect IT development or use in Paraguay? Explain.

If you have any other comments about this topic, please make them below.
INTRODUCTION
How can a company value its various intangible assets? By definition, intangible is “a good, service, or effect that has no monetary value” (Cutter and Renwick 2001). One example of an intangible asset is employee knowledge. For instance, an employee in the advertising department has intangible assets that are comprised of knowledge of customer demographics, company goals, and what has or has not worked in the past (to name just a few), all of which lead to successful or unsuccessful marketing campaigns. Therefore, a strong relationship with customers is built by using a company’s intangible assets generated by employees and vendors. The strength of this relationship is reflected in the calculated value of the firm’s intangible assets and its brand recognition. A company with stronger brand recognition has more value residing in its intangible assets. This research investigates the relationship between a firm’s intangible assets and brand recognition. For a set of firms in a related industry, the research will show that there is a statistically significant positive correlation between a measure of a firm’s intangible assets and its brand recognition. The research suggests that using this measure to quantify the brand rank of a firm is feasible.
BACKGROUND

Businesses today are focused on maximizing value for their shareholders. Historically, business assets have been mostly tangible, with nearly all intangible assets stemming from the sale of the business and the generation of goodwill. Today, a company’s intangible assets may be more important than its tangible assets. The question then arises, how does a company measure those assets and more importantly, how much are they worth?

A company’s market value is comprised of two main elements: intellectual capital and financial capital. Financial capital is easy to determine. It is the value of the company’s investment in tangible assets, such as equipment and machines used to produce goods or services. What is difficult to quantify is intellectual capital, which is comprised of three basic elements: human, structural, and relational capital. Human capital is the employee knowledge that is brought to the firm and the employee’s ability to generate knowledge. Structural capital is comprised mainly of information and communication systems, items that the company internalizes and uses to make knowledge accessible. Relational capital is the relationship a company develops between its employees, customers, and vendors and alliance partners (suppliers).

There are several ways to calculate the value of intellectual capital (Dzinkowski 2000), the easiest being the difference between market value and book value. The simplicity of this calculation can result in outcomes that are not meaningful. What happens when a company’s market value is lower than the book value? Does this mean that the company has an intellectual deficit? Probably not. Therefore, the difference between market and book value is not a reliable valuation of intangible assets.

Another way to value the capital created by intangible assets is to look at Tobin’s Q, a ratio developed by Nobel Prize-winning economist James Tobin. Tobin’s Q looks at the ratio between a firm’s market value and the replacement costs of all its assets. For example, “a Tobin’s Q of 2 means the firm’s market value is twice as large as the replacement cost of its assets” (Cornelis et al. 2000, 6). Unless one is working for the firm in question, however, finding and determining the replacement costs for all assets is time-consuming and probably not feasible.

A quicker, yet accurate way to calculate intangible asset value would be to glean all the information needed to determine intangible asset value from public resources. The NCI Research group has developed a “measure of a company’s
ability to use its intangible assets to outperform the other companies in its industry” (Cornelis et al. 2000, 8). This measure is the Calculated Intangible Value (CIV), which is calculated by finding the firm’s current three-year average pre-tax earnings, then subtracting from it, the product of the three-year industry average return on assets (ROA) and the firm’s three-year average tangible assets.

Starbucks is a top-performing company with substantial growth and broad brand recognition. As one would expect, Starbucks has fostered relationships with employees, suppliers, and customers and has exceptional relational capital. It is expected that its intangible assets will be substantial, leading to high CIV value and brand recognition. Other companies that have lower CIVs will tend to have lower brand recognition.

Companies with increasing CIV values will also have greater relational capital. The assumption is that companies with increasing intangible value are doing so by creating strong relationships with their customers, suppliers, and employees. By forming and maintaining solid, long-term relationships with employees, suppliers, and customers, relational capital becomes tangible in the sense that it is evident from the success of the company.

In looking at publicly traded companies in the retail restaurant industry, specifically those designated as “Specialty Eateries” by Yahoo! Finance and “Eating and Drinking Places” by the SEC, one can determine that those companies with a higher CIV for the fiscal year 2004 also have a higher brand rank. This suggests that the CIV may be used as a measure of brand reputation. The following analysis supports this hypothesis.

**METHODOLOGY**

**Company Selection Process**

In addition to its strong brand recognition and company performance, Starbucks had the highest valued tangible assets in the aforementioned industry for fiscal year 2004 and was the basis for company selection. Twelve public companies were selected from the Yahoo! Finance website (http://finance.yahoo.com/) mentioned above and the SEC website (www.sec.gov), with Securities and Exchange Commission SIC codes of either 5810 - Retail - Eating and Drinking Places, or 5812 - Retail - Eating Places, or 5400 - Retail - Food Stores, or 2050 - Bakery Products. Six of the twelve companies share Starbucks SIC code of 5810, and another five share Starbucks Yahoo’s industry designation of Specialty Eateries - Public Companies. In addition, of the five SIC code 5810 companies, four share
Yahoo’s industry designation of Restaurants - Public Companies; for the remaining company, Yahoo designates its industry as Restaurants - Private/Foreign. All company information was gathered from annual 10K or 10K-SB reports filed with the SEC.

The twelve companies have a total of 29 listed subsidiary companies. Table 1 lists company name, subsidiary or subsidiaries, the SEC CIK#, SEC SIC code and the Yahoo! Finance designation. Appendix A lists the companies’ former appellations, if any.

**Company Rejections**
Twenty-four companies were listed under the SEC SIC code 5810. Of these, we rejected seventeen, leaving a population of seven with the SEC SIC code 5810. Three companies were rejected because of their inability to file a 10K or 10K-SB report with the SEC on time. Six companies filed a registration of securities termination with the SEC. One did not have enough years of filings. One declared bankruptcy. Two were individual people, one had the most recent filing in 1998, one listed a mailing address as the Triarc Company address, and neither one had any 10K filings on record. Four were rejected for other reasons.

**Brand Ranking Process**
The twelve parent companies and their 29 subsidiaries were ranked by brand recognition. Brands were scored on the basis of a survey of 27 graduate students.

**Student Survey**
A survey conducted during the summer academic session of 2005, at a mid-sized Midwestern university, asked MBA students with a median age of 29 to rate their recognition of the twelve parent companies. This set of students was chosen because they would have a broader background than traditional college second-year students, so their opinions should correlate better with those of the general populace. They rated these companies on a scale of five to one, with five being the most recognized and one meaning not recognized at all. A large majority of students recognized almost none of the parent companies. A second survey asked the same students to rate how well they knew the subsidiary companies’ brand names, however, using the same ranking system. This survey provided more brand recognition information. Company and subsidiary names are listed in Appendix A.
<table>
<thead>
<tr>
<th>Company Name</th>
<th>Parent Company</th>
<th>Zip Code</th>
<th>NAICS Code</th>
<th>Industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAB, Inc.</td>
<td>Big Apple Bagels, My Favorite Muffin, Brewster's Coffee</td>
<td>1123596</td>
<td>2050</td>
<td>Specialty Eateries</td>
</tr>
<tr>
<td>Benihana, Inc.</td>
<td>Benihana, Benihana of Tokyo Haru, RA Sushi, Doraku</td>
<td>935226</td>
<td>5812</td>
<td>Restaurants, Public</td>
</tr>
<tr>
<td>Champps Entertainment Inc.</td>
<td>Champps Americana Champps Restaurant Champps Restaurant &amp; Bar</td>
<td>1040328</td>
<td>5810</td>
<td>Restaurants, Public</td>
</tr>
<tr>
<td>Deidrich Coffee, Inc.</td>
<td>Deidrich Coffee, Gloria Jean's, Coffee People</td>
<td>947661</td>
<td>5400</td>
<td>Specialty Eateries</td>
</tr>
<tr>
<td>Eat at Joe's, LTD</td>
<td>Eat at Joe's</td>
<td>829325</td>
<td>5810</td>
<td>Restaurants, Public</td>
</tr>
<tr>
<td>Flanigan's Enterprise, Inc.</td>
<td>Flanigan's Management Services, Inc. Flanigan's Enterprises, Inc. Seventh Street Corp. Flanigan's Seafood Bar &amp; Grill</td>
<td>12040</td>
<td>5812</td>
<td>Specialty Eateries</td>
</tr>
<tr>
<td>New World Restaurant Group, Inc.</td>
<td>Einstein Bros., Noah's</td>
<td>949373</td>
<td>5812</td>
<td>Specialty Eateries</td>
</tr>
<tr>
<td>Panera Bread Co.</td>
<td>Panera Bread Co.</td>
<td>724606</td>
<td>5812</td>
<td>Specialty Eateries</td>
</tr>
<tr>
<td>Real Mex Restaurants, Inc.</td>
<td>Acapulco, El Torito</td>
<td>1289480</td>
<td>5810</td>
<td>Restaurants, Foreign</td>
</tr>
<tr>
<td>Rick’s Cabaret International, Inc.</td>
<td>Rick’s Cabaret, XTC</td>
<td>935419</td>
<td>5810</td>
<td>Restaurants, Public</td>
</tr>
<tr>
<td>Starbucks</td>
<td>Starbucks</td>
<td>829224</td>
<td>5810</td>
<td>Specialty Eateries</td>
</tr>
<tr>
<td>Triarc Companies, Inc.</td>
<td>Arby's, Deerfield &amp; Company, LLC</td>
<td>30697</td>
<td>5810</td>
<td>Restaurants, Public</td>
</tr>
</tbody>
</table>
ANALYSIS
Naturally, a larger company, such as Starbucks, should have a much larger CIV than a smaller company with similar attributes. Therefore, in order to compare large companies to small ones in the same industry, we needed to create a level playing field.

ROA Calculation
For this study, return on assets (ROA) was calculated using only the companies selected. The three-year average industry ROA was calculated by first finding each specific company’s ROA for three years and then averaging the industry for each year and then averaging across all three years for the industry. (For purposes of this study the industry is defined as the twelve selected companies.) The industry average ROAs were 0.032 (in 2004), 0.007 (2003), and –0.070 (2002). Averaging across these three years yields a three-year average ROA of –0.011 (see Table 2).

Modifying CIV to Create a Level Playing Field
It is possible to compare a small company to a large company by comparing the ratio of CIV to purchasing power, which is the sum of a company’s long-term debt and its shareholder equity. As tangible assets are purchased through these two financing options and tangible assets are part of the CIV calculation, it is logical to compare these two items to level the playing field. The ratio between CIV and the sum of long-term debt and shareholder equity is called the level playing field ratio (LPF Ratio). Table 3 shows the LPF ratios of the selected companies.
Table 2: CIV Calculations

<table>
<thead>
<tr>
<th>Company Name</th>
<th>Pre-Tax Earnings</th>
<th>3-year Average</th>
<th>Tangible Asset Value**</th>
<th>CIV</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAB, Inc.</td>
<td>$ 539,611</td>
<td>(0.011)</td>
<td>$ 430,048</td>
<td>$ 544,208</td>
</tr>
<tr>
<td>Benihana, Inc.</td>
<td>$ 13,568,000</td>
<td>(0.011)</td>
<td>$ 81,557,333</td>
<td>$ 14,439,673</td>
</tr>
<tr>
<td>Champps Entertainment, Inc.</td>
<td>$ 4,094,000</td>
<td>(0.011)</td>
<td>$ 80,043,000</td>
<td>$ 4,949,488</td>
</tr>
<tr>
<td>Deidrich Coffee Inc.</td>
<td>$ 162,000</td>
<td>(0.011)</td>
<td>$ 7,225,667</td>
<td>$ 239,227</td>
</tr>
<tr>
<td>Eat at Joe’s LTD</td>
<td>$(367,488)</td>
<td>(0.011)</td>
<td>$ 152,829</td>
<td>$(365,854)</td>
</tr>
<tr>
<td>Flanigan’s Enterprise, Inc.</td>
<td>$ 1,370,333</td>
<td>(0.011)</td>
<td>$ 11,786,333</td>
<td>$ 1,496,304</td>
</tr>
<tr>
<td>New World Restaurant Group, Inc.</td>
<td>$(44,897,000)</td>
<td>(0.011)</td>
<td>$ 59,207,333</td>
<td>$(44,264,201)</td>
</tr>
<tr>
<td>Panera Bread Co.</td>
<td>$ 47,531,667</td>
<td>(0.011)</td>
<td>$ 149,133,333</td>
<td>$ 49,125,582</td>
</tr>
<tr>
<td>Real Mex Restaurants, Inc.</td>
<td>$ 3,372,667</td>
<td>(0.011)</td>
<td>$ 45,028,000</td>
<td>$ 3,953,919</td>
</tr>
<tr>
<td>Rick’s Cabaret International Inc.</td>
<td>$(352,544)</td>
<td>(0.011)</td>
<td>$ 8,910,776</td>
<td>$(257,307)</td>
</tr>
<tr>
<td>Starbucks Corp.</td>
<td>$ 464,390,333</td>
<td>(0.011)</td>
<td>$ 1,421,636,667</td>
<td>$ 479,584,578</td>
</tr>
<tr>
<td>Triarc Companies, Inc.</td>
<td>$(14,765,333)</td>
<td>(0.011)</td>
<td>$ 108,296,333</td>
<td>$(13,607,878)</td>
</tr>
</tbody>
</table>

*The ROA calculated for this study is negative. ROA has been calculated using data specific to the companies selected for this research only.

**For our calculations tangible assets are strictly those assets included in the property, plant and equipment section on the balance sheet.
<table>
<thead>
<tr>
<th>Company Name</th>
<th>3-Year Average</th>
<th>3-Year Average</th>
<th>Ratio C/V/(LTD + SE)</th>
<th>3-Year Average shareholders equity</th>
<th>Long-Term Debt</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIV/(LTD + SE)</td>
<td>$1,034,214.33</td>
<td>$4,873,142.33</td>
<td>0.0156</td>
<td>$58.1'343.000.00</td>
<td>$91'693.666.67</td>
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<tr>
<td>Bab, Inc.</td>
<td>$9,496,666.67</td>
<td>$84,796,333.33</td>
<td>0.1531</td>
<td>$3'760,927.00</td>
<td>$3'483,333.33</td>
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<tr>
<td>Benihana, Inc.</td>
<td>$41,632,333.33</td>
<td>$65,299,000.00</td>
<td>0.0463</td>
<td>$14'880,000.00</td>
<td>$13'872,333.33</td>
</tr>
<tr>
<td>Deidrich Coffee Inc.</td>
<td>$2,524,000.00</td>
<td>$17,070,000.00</td>
<td>0.0122</td>
<td>$8'227'333.33</td>
<td>$6'227'333.33</td>
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<tr>
<td>Eat at Joe's Ltd.</td>
<td>$1,742,148.33</td>
<td>$3,057,292.67</td>
<td>0.2782</td>
<td>$16'0'291'000.00</td>
<td>$10'136'666.67</td>
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<tr>
<td>Flanigan's Enterprises, Inc.</td>
<td>$1,374,666.67</td>
<td>$10,136,333.33</td>
<td>0.1300</td>
<td>$1'3'74,666.67</td>
<td>$1'3'74,666.67</td>
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<td>New World Restaurant Group, Inc.</td>
<td>$160,291,000.00</td>
<td>$98,769,333.33</td>
<td>0.7195</td>
<td>$160,291,000.00</td>
<td>$98,769,333.33</td>
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<tr>
<td>Panera Bread Co.</td>
<td>$13,827,333.33</td>
<td>$196,274,666.67</td>
<td>0.2338</td>
<td>$162,291,000.00</td>
<td>$179,072,333.33</td>
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<td>Real Mex Restaurants, Inc.</td>
<td>$114,830,000.00</td>
<td>$19,417,333.33</td>
<td>0.0287</td>
<td>$114,830,000.00</td>
<td>$19,417,333.33</td>
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<td>$7,489,924.33</td>
<td>0.0229</td>
<td>$3,750,927.00</td>
<td>$7,489,924.33</td>
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<tr>
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<td>$91,693,666.67</td>
<td>$2,089,505,666.67</td>
<td>0.0156</td>
<td>$91,693,666.67</td>
<td>$2,089,505,666.67</td>
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Table 3: LPF Ratios
<table>
<thead>
<tr>
<th>Company Name</th>
<th>LPF Ratio</th>
<th>Brand Recognition</th>
<th>x LPF Rank</th>
<th>y Brand Rank</th>
<th>d (_{(x,y)})</th>
<th>d(^2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rick’s Cabaret International, Inc.</td>
<td>0.0229</td>
<td>1.22</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
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<tr>
<td>BAB, Inc.</td>
<td>0.0921</td>
<td>1.25</td>
<td>7</td>
<td>2</td>
<td>5</td>
<td>25</td>
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<tr>
<td>Champps Entertainment, Inc.</td>
<td>0.0463</td>
<td>1.27</td>
<td>6</td>
<td>3</td>
<td>3</td>
<td>9</td>
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<tr>
<td>Deidrich Coffee, Inc.</td>
<td>0.0122</td>
<td>1.28</td>
<td>4</td>
<td>4</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Flanigan’s Enterprise, Inc.</td>
<td>0.1300</td>
<td>1.32</td>
<td>8</td>
<td>5</td>
<td>3</td>
<td>9</td>
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<tr>
<td>Benihana, Inc.</td>
<td>0.1531</td>
<td>1.39</td>
<td>9</td>
<td>6</td>
<td>3</td>
<td>9</td>
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<tr>
<td>Real Mex Restaurants, Inc.</td>
<td>0.0287</td>
<td>1.83</td>
<td>5</td>
<td>7</td>
<td>-2</td>
<td>4</td>
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<tr>
<td>New World Restaurant Group Inc.</td>
<td>0.7195</td>
<td>2.46</td>
<td>1</td>
<td>8</td>
<td>-7</td>
<td>49</td>
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<tr>
<td>Eat at Joe’s LTD</td>
<td>0.2782</td>
<td>2.67</td>
<td>12</td>
<td>9</td>
<td>3</td>
<td>9</td>
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<tr>
<td>Triarc Companies, Inc.</td>
<td>0.0156</td>
<td>3.09</td>
<td>3</td>
<td>10</td>
<td>-7</td>
<td>49</td>
</tr>
<tr>
<td>Panera Bread Co.</td>
<td>0.2338</td>
<td>4.67</td>
<td>11</td>
<td>11</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Starbucks Corp.</td>
<td>0.2199</td>
<td>4.89</td>
<td>10</td>
<td>12</td>
<td>-2</td>
<td>4</td>
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</table>

n = 12
n–2 = 10
r* = 0.41
t\(_{calc}\) = 1.43
P = 0.09
SURVEY ANALYSIS
Brand Recognition Scoring
Brands were scored on the basis of recognition among the student sample. After ranking the subsidiary companies, the parent groups were assigned an average score of the subsidiaries’ brand ranks. In the case of a tie, the parent-only survey (the first one) was consulted to determine which parent company had greater name recognition.

Statistical Results
Relying on LPF ratios, companies were ranked from lowest to highest, with the highest scores assigned the highest rank. The Spearman correlation between the LPF ratio and brand recognition showed one-tail significance at the 90% level. Specifically, ranking the LPF ratios and the brand recognition scores resulted in an $r_s$ of 0.41 and a p-value of 0.09 with ten degrees of freedom. Figure 1 shows...
the correlation between LPF ratio and brand recognition. Table 4 provides the rankings of LPF ratios and brand recognition.

Eat at Joe’s, LTD had a negative CIV and a negative purchasing power sum, leading to a positive LPF ratio. This one data point also happened to have a relatively high brand recognition score. Further research in needed to study this anomaly.

CONCLUSION

It is easy to observe the customer relational capital in large corporations such as Starbucks, but firms that have small tangible assets, such as Panera Bread Co., also show this relationship. When companies are compared on the same scale, a statistically significant, positive correlation exists between a firm’s ratio of CIV to the sum of long-term debt and shareholder equity (LPF) and the firm’s brand recognition among customers. We may conclude the higher the LPF ratio a firm has, the higher a brand recognition the firm is likely to have. This brand recognition is founded on customer relational capital. The intangible assets of employees in the firm and vendors strengthen the relationship the firm has with its customers, leading to brand recognition.

FURTHER RESEARCH

The conclusions presented here are based on survey of a limited number of college students in the Midwest of the United States. While the student population is diverse, it is hardly the size and quality that could be gained by conducting a national survey. Many of the subsidiary companies are not local to the Midwest, some have mostly east coast customer bases and some have mostly west coast customer bases, while others are international.

The research provided here surveys only the customer side of relational capital and its influence on the value of intangible assets. The vendor side of the equation should also be researched.

Conducting a similar survey of suppliers, asking them to rank companies based on their perception of how healthy the relationship is between the company and their vendors, would allow the strength of vendor/client relationships to be measured. As customers are relatively easy to query and gather data, the challenge is to determine how vendors perceive their clients and how employees rate their employers, thus examining how the whole of relational capital affects intangible value. That information should correlate to a strong relationship with employees,
customers, and vendors and high intangible asset value and successful businesses.

Further research should be undertaken to see whether negative CIV and negative purchasing power normally result in high brand recognition. This could be due to some other tangible assets, rather than intangible ones, used to promote brand recognition, such as promotional mailings, coupons, or some other expenditure that creates negative shareholder equity, while at the same time creating a pre-tax loss.

Further research should also be undertaken to see whether this relationship holds across industries, for example the automotive industry or other manufacturing industries.

A QUALITY COROLLARY
Our research indicates a strong correlation between name recognition and intangible value. Such recognition may result from successful advertising campaigns, but also likely involves customer opinion as to quality of product and service, price of product, restaurant location, and other drivers. Additional research is warranted to isolate the impact of these factors on intangible value.

ACKNOWLEDGEMENTS
We would like to thank Dr. Ron Wasserstein, Vice President of Academic Affairs and Professor of Statistics in the Mathematics Department at Washburn University for his help in interpreting the statistical analysis of the r coefficient and p-value.
REFERENCES


# Appendix A

<table>
<thead>
<tr>
<th>Company Name</th>
<th>Formerly Known as</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benihana, Inc.</td>
<td>Champps Entertainment, Inc.</td>
</tr>
<tr>
<td>BAB, Inc.</td>
<td>Unique Casual Restaurants, Inc.</td>
</tr>
<tr>
<td>Champps Entertainment, Inc.</td>
<td></td>
</tr>
<tr>
<td>Eat at Joe’s, LTD.</td>
<td></td>
</tr>
<tr>
<td>Deidrich Coffee, Inc.</td>
<td>New World Coffee &amp; Bagels, Inc.</td>
</tr>
<tr>
<td>Flanigan’s Enterprise, Inc.</td>
<td>New World Coffee, Inc.</td>
</tr>
<tr>
<td>New World Restaurant Group, Inc.</td>
<td>New World Coffee Manhattan Bagel, Inc.</td>
</tr>
<tr>
<td>Panera Bread Co.</td>
<td></td>
</tr>
<tr>
<td>Real Mex Restaurants, Inc.</td>
<td></td>
</tr>
<tr>
<td>Rick’s Cabaret International, Inc.</td>
<td></td>
</tr>
<tr>
<td>Triarc Companies, Inc.</td>
<td></td>
</tr>
<tr>
<td>Starbucks Corp.</td>
<td></td>
</tr>
</tbody>
</table>

(Footnotes)

* The ROA calculated for this study is negative. ROA has been calculated using data specific to the companies selected for this research only.

** For our calculations tangible assets are strictly those assets included in the property, plant, and equipment section on the balance sheet
INTRODUCTION
The use of employee stock options became more prevalent during the late 1980s and the 1990s with the presence of a bull market and other factors. Options have become a primary component of executive and employee compensation packages in public corporations. They have become even more important in the so-called “new economy” firms (Anderson, Banker, and Ravindran 2000). New economy firms are characterized by a smaller number of employees, lower sales levels, high growth rates, intense investment in research and development and much lower accounting earnings than old economy companies.

U.S. corporations have begun to abuse option grants to upper executives and lower level employees, because of the favorable accounting treatment of options. Murphy (2003) found that 96.4% of new economy firms and 96.7% of old economy firms offer stock-based pay to their top five executives, but as a percentage of total compensation to the firm’s top five executives options were 75.4% in new economy firms compared to 48.6% in old economy firms in 2001. The percentage of options as a part of CEO compensation was slightly higher, at 82.6% and 58.6% for new and old economy firms respectively. While executives receive a major portion of their compensation in the form of stock options,
a study of U.S. firms over 1994–1997 revealed that 75% of the total number of stock options are granted to non-executive employees (Core and Guay 2001).

Past literature has examined the economic factors that are most closely associated with executive compensation and stock option grants to employees. Ramaswamy, Fernandez, and Ueng (2000) found a strong relationship between financial performance and executive pay (including option grants). In their studies, firm sales were the most significant factor. Core and Guay (2001) found that option grants to non-executive employees are a factor of firm growth opportunities, firm size, cash flow restraints and high cost of external capital generation.

This paper has three main objectives. First, we test the significance of firm financial performance and economic variables on the level of stock option grants, using regression techniques. Second, using a similar regression technique, we analyze the significance of firm-specific financial performance and economic variables on the level of total CEO compensation. Finally, we examine the impact of stock options on company earnings per share, to see the dilutive effect that options have.

BACKGROUND AND MOTIVATION
Why Companies Grant Options
A common theme in the discussion of stock options is agency theory. Many believe that granting stock options to management and employees will act as an incentive to improve company performance and increase the stock price. This should align the management focus better with that of the company shareholders. In theory, this would increase shareholder wealth and also produce gains upon exercise for those holding options.

There are two main problems related to the agency theory approach. First, options have an asymmetric return profile. They have unlimited upside potential if the stock price rises, but become worthless if it declines. This does nothing to hurt employees holding options because they paid nothing for them. Because of the upside potential, options can be an incentive to management for increased risk-taking, especially for options with short vesting periods.

The second problem with the agency theory view is the dilutive affect of options when they are exercised. According to the book *In the Company of Owners*, nearly 90% of all option holders sell their shares to take a profit immediately after exercise (Blasi et al. 2003). This increases the number of shares outstanding-
ing and dilutes the value of shares already in the marketplace. Some firms have begun to manage the dilutive process by beginning share repurchase programs that attempt to buy back the number of shares they wish to grant as options.

Another reason companies use stock options is to retain employees and motivate them to improve company performance. Theoretically, retention is accomplished by placing a vesting period on the option before it can be exercised. This idea has lost merit as vesting periods continue become shorter and shorter, as short as six months or a year in many technology or new economy firms. A possible explanation for shorter vesting periods is the tremendous loss many employees sustained in the 2000 market crash. Inflated stock prices in the technology sector drastically increased the wealth of employees who held options. When the stock prices collapsed employees were left with severely out-of-the-money options and no wealth.

Companies also use options if they are dealing with cash flow problems or financing constraints. Option use is more prevalent in the new economy firms characterized by lower accounting earnings and high growth potential. Because stock options do not have to be treated as compensation expense on the income statement, companies grant options as a form of free money with no effect on their bottom line. Options are a form of financing to a company upon exercise of the options. Employees pay the exercise price to the company for the shares when they exercise the option. This can replace debt financing or cover for a lack of equity financing sources for the company.

**Accounting Treatment for Stock Options and Related Problems**

Accounting Principles Board (1972) (APB) Opinion No. 25: *Accounting for Stock Issued to Employees* required a company to recognize an expense for stock options with variable exercise prices. The majority of options granted by corporations are not variable, but fixed, with the exercise price and number of shares fixed at the date of grant. These options were not required to be reported as an expense and sparked the debate over stock option accounting as they became more popular.

The Financial Accounting Standards Board (FASB) initially supported expensing fixed options, but it was met with much opposition. It issued SFAS 123: *Accounting for Stock-Based Compensation* in 1995. Under SFAS 123 companies have two options of reporting for stock options. They can choose to adopt SFAS 123 formally and record a compensation expense on the income statement. There are two methods of reporting options in this way. Under the fair-value
method companies can recognize an expense equal to the fair value of the options at the grant date, amortized over the life of the option. The fair value of the options is determined using an option-pricing model such as a binomial model or the Black-Scholes model. The company can also use the intrinsic-value method, in which they recognize an expense equal to the difference between the market price of the stock and the exercise price of the options at the grant date. Because most companies set the exercise price equal to the stock price on the grant date, this method will normally result in no compensation expense.

The second option the company can elect is to adopt the pro forma footnote disclosure of stock-option expense. This is what most companies choose, and it shows what earnings would have been if SFAS 123 had been formally adopted and stock options were expensed on the income statement. If a company grants in-the-money stock options, they must recognize a compensation expense regardless of their normal method.

The discussion of the accounting treatment for stock options shows how excessive option grants can give a distorted financial picture of a company to an investor, unless the investor recognizes the impact of the options.

Not including stock-option grants as a compensation expense is wrong from a theoretical perspective. It leads to inflated net income and earnings-per-share (EPS) figures. An extreme example of the effect stock options can have on a company’s reported EPS is Yahoo’s earnings in 1999. The company reported earnings of $.12 per share, but if it had treated option costs as an expense, it would have lost $.50 a share. Many investors use EPS trends to find companies to invest in and, as we can see in the Yahoo example, not reporting stock options can impair the thinking of potential investors. Companies are now judged by Wall Street on whether they meet their earnings expectations each quarter. Overstatements can lead to artificially high stock prices, uninformed investor decisions, and speculation, because the non-expensing of stock options hides the true financial position of a company.

DATA AND METHODOLOGY
Research Design and Empirical Models

The first part of our study will examine factors that affect the level of stock-option grants of our sample firms. The fair value of options granted throughout the year was found using an option-pricing model. Stock option data was obtained from annual reports of the sample companies for the last full year available. This
was the 2002 annual report for calendar-year corporations and the 2003 annual report for noncalendar-year corporations. Because many different option grants exist for companies each year the weighted average exercise price was used in our valuation models. We also used the company estimates for the term of the option and for the expected volatility.

The Black Scholes Option Pricing Model (BSOPM) is the most popular model for firms when they attempt to value their options. The model combines the firm’s stock price, exercise price of the option, stock price volatility, dividend yield, a risk-free rate of interest, and the term of the option, to find a fair value of the stock option. This model was designed to value stock options that could be traded on the open market and, therefore, it gives the option a higher value for liquidity. Stock options granted to employees do not have this liquidity feature and thus, should not be valued using the BSOPM. Employee stock options have trading restrictions: they cannot be traded or converted to cash quickly and this makes them more risky and less valuable than traded options.

Models have been developed to take the liquidity value out of an employee stock option. For this study, we will use a model based on a method developed by D.B.H. Chaffe III, which quantifies the discount for lack of trading ability. This model was further developed by Marc Katsanis and is called the Valrex Model.

Katsanis (2001) developed Valrex as a two-part model consisting of a traded-call option and a put option on the call option with an exercise price set equal the theoretical freely traded call option value. The traded-call option value is found by using a trinomial option-pricing model, which yields a similar value to that of the BSOPM, or a binomial model. We next use a put-on-call option-pricing model to find the value of the selling privileges of the freely traded option. The Valrex value is the difference between the freely traded value and the put-on-call value.

This option value is then multiplied by the total number of option grants during the year to find the fair value of stock options granted by our sample firms. The fair value is then amortized and expensed over the expected life of the option.

The second part of our study examines factors affecting the level of total CEO compensation across our sample. Our research uses a broad measure of CEO compensation first used by Ramaswamy, Fernandez and Ueng (2000). We determine total CEO compensation using the sum of salaries and bonuses, the fair
value of option grants during the year (using the Valrex model), and gains-on-option exercise.

To better explain the variations in the value of option grants and the level of CEO compensation across our sample, we tested various firm-specific characteristics for explanatory power.

**Sales.** Sales are the main source of revenues for corporations and have always been a significant factor in determining the level of CEO compensation and option grants. Sales are a measure of the size of the corporation and are used in our study to divide the sample into subgroups. If large corporations are characterized by higher sales, they should have more resources to give as compensation. Higher sales figures should lead to larger option grants and higher CEO compensation.

**Market Capitalization.** Market capitalization is a measure of firm size. Higher capitalization means they have more capital under their control. As is the case with sales, corporations with a high market capitalization will have more resources available, resulting in higher CEO compensation and more option grants.

**Return on Assets.** Ratio analysis can give insight into the true financial position of the corporation. ROA is used as an overall measure of performance. A high ratio means good financial performance and will lead to higher compensation and an increased number of options.

**Leverage.** Long-term financial management is an indicator of good performance. An optimal combination of debt and equity is essential for continuing long-term growth and stability. The higher the debt burden of a firm, the fewer resources they have available for compensation. Leverage will be measured in our study using the debt/equity ratio. High-debt firms will grant more options because of financial constraints, and cash compensation to CEOs will be reduced.

**Change in Stock Price.** The concept of agency theory was mentioned earlier; it suggests that management compensation should be tied to firms’ financial performance. The stock market responds to favorable performance with an increase in stock price. Good stock performance over the year should lead to higher compensation and more stock options.
The variables used in the regression models and our hypothesized direction of the relationship between the independent and the dependent variables are shown in Table 1.

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Measurement</th>
<th>Dependent Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Market Capitalization</td>
<td>Avg. in 2002</td>
<td>Fair Value of Stock Options +</td>
</tr>
<tr>
<td>2. Sales</td>
<td>Net Sales in 2002</td>
<td>+</td>
</tr>
<tr>
<td>3. Return on Assets</td>
<td>Net Income/Assets</td>
<td>+</td>
</tr>
<tr>
<td>4. Leverage</td>
<td>Debt/Equity</td>
<td>-</td>
</tr>
<tr>
<td>5. Change in Stock Price</td>
<td>Percent Change over the Year</td>
<td>+</td>
</tr>
</tbody>
</table>

Characteristics of the firms were combined in a regression to measure their impact on the levels of CEO compensation and stock option grants. The regression models are shown below.

\[
\ln (\text{FVOPT}) = \beta_0 + \beta_1 \text{MRKTCAP} + \beta_2 \ln (\text{Sales}) + \beta_3 \text{ROA} + \beta_4 \text{DE} + \beta_5 \text{CHSTPR}
\]

\[
\ln (\text{TCOMP}) = \beta_0 + \beta_1 \text{MRKTCAP} + \beta_2 \ln (\text{Sales}) + \beta_3 \text{ROA} + \beta_4 \text{DE} + \beta_5 \text{CHSTPR}
\]

Where:

\[
\ln (\text{FVOPT}) = \text{fair value of stock options granted during the year using the Valrex Model}
\]

\[
\ln (\text{TCOMP}) = \text{total CEO compensation including salary, bonuses, FV of stock option grants, and gains from long-term options exercised}
\]

\[
\text{MRKTCAP} = \text{average market capitalization for the firm over the year}
\]

\[
\ln (\text{Sales}) = \text{sales of the firm over the year}
\]

\[
\text{ROA} = \text{return on assets}
\]

\[
\text{DE} = \text{leverage measured by the debt/equity ratio}
\]

\[
\text{CHSTPR} = \text{change in price of common stock during the year}
\]
The purpose of the regressions is to find the relationship between the firm characteristics and the dependent variables of CEO compensation and the fair value of stock option grants.

Sample Selection

For our study we chose a sample of companies from two different industries—electric utilities and software and programming—in order to contrast traditional businesses with new economy firms. Sample companies were chosen randomly from Yahoo industrial indices based on the availability of traded stock-option information. The two industry samples were further broken down into high sales and low sales groups. The sample included 16 high-sales and 16 low-sales utility companies, and 43 high-sales and 41 low-sales software firms. (These numbers are in parentheses in the first column of Table 2.) The industries were broken down by sales because, historically, this has been the most significant indicator of stock option grants and CEO compensation. This will allow us to compare trends in stock option grants and CEO compensation among the subgroups of firms. Summary statistics for our sample firms are shown in Table 2, where we summarize the maximum, minimum, mean, median, and standard deviation of total CEO compensation, fair value of option grants, market capitalization, return on assets, leverage, sales, and change in stock price of four subgroups of our sample firms.

The industries are very different in their operations and financial performance. The electric utilities industry is characterized by relatively stable stock prices, strong earnings from year to year, and a steady demand for their product. The software and programming industry is included with the so-called new economy firms. These companies are characterized by volatile stock prices, low or negative earnings, and a product demand fueled by innovation. Because of their low earnings, the level of stock options in software companies should exceed the level in utility firms for both sample groups.

Total CEO compensation in the utility industry ranges from $617,440 to $13,731,232, whereas in the software industry it ranges from $150,000 to $33,924,088. The level of option grants in the high sales groups is much higher in the software group than in the utility group. The software group has a range from $1,156,025 to $2,344,646,315, with a mean fair value of $78,644,635, while the utility group has range from $0 to $27,343,247, with a mean fair value of $7,627,674. Because some firms in the sample granted an excessive amount
### Table 2. Summary Statistics of the Sample

<table>
<thead>
<tr>
<th>Description</th>
<th>Mean</th>
<th>Median</th>
<th>Std Dev</th>
<th>Maximum</th>
<th>Minimum</th>
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<tr>
<td><strong>Total CEO Compensation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High Sale Utility (16)</td>
<td>5,536,447</td>
<td>5,803,064</td>
<td>2,052,820</td>
<td>8,765,933</td>
<td>2,718,955</td>
</tr>
<tr>
<td>Low Sale Utility (16)</td>
<td>3,498,402</td>
<td>2,278,772</td>
<td>3,792,884</td>
<td>13,731,232</td>
<td>617,440</td>
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<tr>
<td>High Sale Software (43)</td>
<td>3,450,528</td>
<td>1,699,811</td>
<td>6,064,059</td>
<td>33,924,088</td>
<td>504,984</td>
</tr>
<tr>
<td>Low Sale Software (41)</td>
<td>944,514</td>
<td>738,413</td>
<td>975,950</td>
<td>6,111,846</td>
<td>150,000</td>
</tr>
<tr>
<td><strong>Fair Value of Option Grants</strong></td>
<td></td>
<td></td>
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<td>High Sale Utility</td>
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<td></td>
<td></td>
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</tr>
<tr>
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<td><strong>2002 Sales (Billions)</strong></td>
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<td></td>
<td></td>
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<tr>
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<td>10.999</td>
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<td>0.724</td>
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<td><strong>2002 Change in Stock Price</strong></td>
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<td>0.595</td>
<td>-0.887</td>
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of options compared to other firms, an analysis of the median fair values will give a better comparison. This measure gives the same conclusion as before: the level of stock options is higher in the software group than the utility group, with median values of $12,996,698 and $5,031,587 respectively. When looking at the low sales groups we see a mixed trend. While the utility group has an overall higher mean fair value of option grants than the software group, the median tells a different story. The median fair value of option grants is $3,117,902 in the software group compared to only $1,186,449 in the utility group.

**Empirical Results**

Table 3 shows summary results of two sets of regression lines for our sample firms. The first set of regressions used the fair value of option grants as the dependent variable; the second set used total CEO compensation as the dependent variable. From the first regression, the high sales software group had a better adjusted R2 (.565) than the low sales software group (.268). The estimated coefficients of explanatory variables are in the third and fourth columns. The p value is shown in the bracket.

Market capitalization and the natural log of sales were significant at the 10% level, for both high-sales and low-sales software groups. The first regression for the high sales utility group had an adjusted R2 of .696 while the low sales utility group had an adjusted R2 of .618. Overall, the utility groups yielded better adjusted R2 than the software groups. At the 10% significance level, leverage and return on assets were significant for the high sales utility, while sales and change in stock prices were significant for the low sales utility group.

These results indicate that firm size and sales productivity were the most important factors determining the level of stock option grants in the software groups. Results were somewhat different in the utility groups, although sales and change in stock price were significant in the low sales utility group. Here, financial performance (ROA) and leverage were the most significant factors in determining the level of stock option grants in the high sales utility group.

The second set of regressions used Total CEO Compensation as the dependent variable. Similar to the first regression results, the utility groups yielded better adjusted R2 than the software groups. The regression for the high-sales and low-sales utility groups had adjusted R2 of .591 and .731 respectively, while the regression for the high-sales and low-sales software groups had adjusted R2 of .392 and .207. For the high-sales software group, market capitalization and sales were significant at the 10% level; for the low-sales software group, market
<table>
<thead>
<tr>
<th>Sample Groups</th>
<th>Dependent Variable</th>
<th>FV of Stock Options Coefficient [P Value]</th>
<th>Total CEO Compensation Coefficient [P Value]</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Sales Software</td>
<td>Market Capitalization</td>
<td>.008 [.093]</td>
<td>3.586 [.01]</td>
</tr>
<tr>
<td></td>
<td>Sales</td>
<td>.762 [.001]</td>
<td>4.314 [.001]</td>
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<td></td>
<td>Leverage</td>
<td>.376 [.416]</td>
<td>(.708) [.484]</td>
</tr>
<tr>
<td></td>
<td>Return on Assets</td>
<td>-.421 [.300]</td>
<td>1.025 [.312]</td>
</tr>
<tr>
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<td>Change Stock Price</td>
<td>-.210 [.696]</td>
<td>.113 [.911]</td>
</tr>
<tr>
<td></td>
<td>Adjusted R-Square</td>
<td>.565</td>
<td>0.392</td>
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<td>43</td>
</tr>
<tr>
<td>Low Sales Software</td>
<td>Market Capitalization</td>
<td>1.068 [.003]</td>
<td>.560 [.071]</td>
</tr>
<tr>
<td></td>
<td>Sales</td>
<td>.378 [.060]</td>
<td>.285 [.084]</td>
</tr>
<tr>
<td></td>
<td>Leverage</td>
<td>.401 [.314]</td>
<td>-.272 [.451]</td>
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<tr>
<td></td>
<td>Return on Assets</td>
<td>-.296 [.567]</td>
<td>.868 [.070]</td>
</tr>
<tr>
<td></td>
<td>Change Stock Price</td>
<td>.287 [.486]</td>
<td>.401 [.286]</td>
</tr>
<tr>
<td></td>
<td>Adjusted R-Square</td>
<td>.268</td>
<td>0.207</td>
</tr>
<tr>
<td></td>
<td>Number of Observations</td>
<td>41</td>
<td>41</td>
</tr>
<tr>
<td>High Sales Utility</td>
<td>Market Capitalization</td>
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<td>2.541 [.029]</td>
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<td>Sales</td>
<td>7.318 [.114]</td>
<td>3.130 [.011]</td>
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<td>Leverage</td>
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<td>Return on Assets</td>
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<td>Change Stock Price</td>
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<td>3.812 [.003]</td>
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<td>0.591</td>
</tr>
<tr>
<td></td>
<td>Number of Observations</td>
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<td>16</td>
</tr>
<tr>
<td>Low Sales Utility</td>
<td>Market Capitalization</td>
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<td>.075 [.318]</td>
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<td>Sales</td>
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<tr>
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<td>Leverage</td>
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<td>.280 [.167]</td>
</tr>
<tr>
<td></td>
<td>Return on Assets</td>
<td>-.561 [.737]</td>
<td>7.110 [.365]</td>
</tr>
<tr>
<td></td>
<td>Change Stock Price</td>
<td>5.571 [.008]</td>
<td>.528 [.515]</td>
</tr>
<tr>
<td></td>
<td>Adjusted R-Square</td>
<td>0.618</td>
<td>0.731</td>
</tr>
<tr>
<td></td>
<td>Number of Observations</td>
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<td>16</td>
</tr>
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</table>
capitalization, sales, and ROA were the significant variables. As for the utility
groups, sales, market capitalization, and change in stock price were significant
for the high-sales group, but sales was the only significant variable for the low-
sales group.

Once again, sales is significant across all industry groups. The results also sug-
gest that overall financial performance (ROA) and size (MRKTCAP) affect CEO
compensation in the software groups. Results are similar in the utility groups—
sales and market capitalization are significant influences on CEO compensation.
Leverage plays a more important role in the utility groups than in the software
groups, because these firms tend to carry more debt.

The final part of our study analyzed the effect that stock option expensing had
on reported net income. The total fair value of options was amortized over the
expected life of the option and treated as an expense. Net income before an op-
tion expense was compared to income after taking the option expense into effect.

Because our software firms were characterized by lower sales and more option
grants, we expect to see a much stronger effect on income, both in the high- and
low-sales groups. The results are presented in Table 4.

Results suggest that options have a much stronger effect in our software and
programming firms. We found that option expensing reduced earnings in the
high-sales group by 66.9% and in the low-sales group by 23.6%. Option expens-
ing in the utility groups had little effect on earnings: for both the groups, option
expensing reduced earnings by only 1%. Clearly options have a greater impact
on earnings in the software and programming industry than in the utilities indus-
try. Technology companies tend to grant more options than utility companies and
the effect on earnings is larger, because the majority of these companies have
low or negative earnings and this magnifies the dilutive effect of options.

CONCLUSION

Results suggest that firm size, overall profitability, and leverage are significant
factors linked to CEO compensation and the level of stock option grants. Sales is
the most significant variable across all of the groups in our sample. This evi-
dence is consistent with Ueng, Wells, and Lily (2000) that CEO compensation
of both large and small firms is a function of firm size. Larger corporations pay
their CEOs more than smaller corporations, because of the size and complex-
ity of the firms’ operations. Software and programming firms, characterized by
lower earnings and greater numbers of options grants, face a severe hit to earnings when stock options are reported as an expense. The effect on earnings of stock options for our software and programming firms was significantly greater than the effect on the utility firms.

This research investigated the relationship between both CEO compensation and the level of option grants with corporate financial performance. It also examined the effect of stock-option expensing on the reported earnings of our sample firms. With stock options becoming such a large portion of CEO and employee compensation, this is an interesting topic to explore. Corporations get favorable reporting treatment for stock options. Currently, they need only disclose pro forma earnings per share figures as if options were expensed on the income statement.

Further research should continue to explore the determinants of stock option grants, especially after the implementation of the new accounting treatment. The FASB recently put the finishing touches on its decision to make stock option expensing mandatory for corporations, beginning in 2005. Companies will have to put the fair value of options granted during the year on the income statement as an expense. This makes options another form of compensation that will hurt corporate profitability. In the future, the effects of options on the bottom line could have an impact on the level of option grants to corporate employees and CEOs.

The FASB has not previously required the use of one option pricing model over another, but the Black-Scholes model and binomial models have been referenced in the standards. The Valrex Model that was used for this analysis results in an option fair value that is 30–60% less than a comparable value calculated by the Black-Scholes or a binomial model.
While we are currently unaware of any company that uses the Valrex Model or another comparable model, its use would have tremendous benefits to firms that continue to grant options to their employees. Because the options receive a lower value due to the lack of tradability, firms will be able to report a much lower option compensation expense under the new standards and reduce the dilutive effect of options on earnings. The use of this model could help companies preserve earnings and whether companies decide to use models such as Valrex should be explored in the future.
REFERENCES


INTRODUCTION

Spain is one of the largest consumers of seafood in the world and its consumption of both fresh and prepared seafood has increased in past years.\(^1\) The changes have been attributed to health and nutrition concerns, as well as increased demand for time-saving goods and services.\(^2\) Seafood expenditures represented nearly 13% and 14% of total food expenditures in 1991 and 2002 respectively and about 52% of these were on prepared products (Gracia and Albisu 1995; Papageorgiou 2002; Escudero 2003).\(^3\) According to the predictions of the “Theory of the Allocation of Time” and its extensions (Becker 1965; Gronau 1977), the demand for prepared foods (among them seafood products) is positively related to the value of women’s time.

Several previous studies have estimated aggregate demands for fish and other food and nonfood items using complete demand systems (Molina 1994; Gracia and Albisu 1995; Salvanes and DeVoretz 1997; Eales, Durham and Wessells 1997). Other studies analyzed the factors affecting the decision to consume some fish species. For instance, Dellenbarger et al. (1992) and Nayga and Capps (1995) used logit models to analyze the influence of income and other socioeconomic factors on the decision to consume catfish and shellfish both at home and away from home. Because of the discrete nature of the seafood product choices, accounting for zeros is a relatively important aspect of the choice of modeling.
approaches. A double-hurdle model is a likely choice. Although a few studies have used double-hurdle models to estimate household demands for different seafood products and to correct for sample selection bias due to zero expenditures (Cheng and Capps 1988; Yen and Huang 1996; Manrique and Jensen 2001), some of these latter studies used a procedure (as suggested by Heien and Wessells 1990) for the estimation of a censored system of equations that has been shown to be inappropriate for the estimation of a system of censored equations (Shonkwiler and Yen 1999). In addition, several of the studies do not account explicitly for the value of women’s time, a factor likely to be important in determining demand for seafood products.

This research examines the factors affecting the consumption of fresh and prepared (or convenience) seafood in Spain within the context of household production theory, paying special attention to the relationship between the value of women’s time and expenditures on prepared seafood goods. Household expenditures on seafood products are analyzed using a sample selection model and Amemiya’s (1974) consistent two-step estimation procedure for a multivariate regression that is censored by latent variables. Consistent two-step estimation procedures are still very valuable, given the computational problems involved in direct maximum likelihood estimation.

THEORETICAL MODEL
Households are assumed to be both producing and utility maximizing units. In order to maximize utility, they choose the best combination of commodities subject to time, resource and technology constraints.

Formally, every household maximizes its utility function

\[ U = U (Z_1, Z_2, ..., Z_j, ..., Z_n) \]  

subject to

\[ Z_j = Z_j (X_j, T_j) \]

\[ m \]

\[ T = \sum T_j + T_w \]  

\[ j=1 \]

\[ m \]

\[ \sum P_j X_j = V + w T_w \]

\[ j=1 \]
where $U$ refers to the household utility function (assumed to be strictly increasing, strictly quasi-concave, and twice continuously differentiable); $Z_j$ represents the quantities of home-produced commodity $j$; $X_j$ represents a $n \times 1$ vector of quantities of market-purchased goods used in the production of home-produced commodity $j$; $T_j$ represents a $k \times 1$ vector of time spent by each of the $k$ household members in the production of commodity $j$; $T$ represents the total time available for the household; $T_w$ is a $k \times 1$ vector of time spent working in market activities by each of the $k$ household members; $P_j$ is a $n \times 1$ vector of prices $X_j$; $V$ represents non-wage income; and $w$ is a $k \times 1$ vector of market wages earned by each of the $k$ household members.

Also, notice that:

$$T_w = T_w (d) \quad (3)$$

where $d$ is a $s \times 1$ vector of household characteristics.

The solution to this problem, holding prices constant, gives the expenditure functions of the $n$ market-purchased goods:

$$e_i = e_i (w, d, V) \quad i = 1,...n. \quad (4)$$

where $e_i$ represents household expenditures on market-purchased good $i$. Here $i = 1,2$ for fresh and processed seafood, respectively. Considering the value of women’s time ($W_w$) and household’s income excluding women’s market earnings ($Y$), the expenditure functions for seafood products are:

$$\text{seafood (i)} = f (W_w, Y, d) \quad (5)$$

These functions also include the main demographic and economic variables expected to affect the household’s expenditures on seafood products.

**EMPIRICAL SPECIFICATION**

Formally, the empirical model describing expenditures on different seafood goods is given by a selection equation:

$$I_{i,h}^* = x_h' \alpha_i + \zeta_{i,h} \quad (6)$$

and an expenditure equation:

$$y_{i,h}^* = z_h' \beta_i + \mu_{i,h} \quad (7)$$

where $I_{i,h}^*$ is a latent selection variable ($i = \text{fresh, prepared}$) for the $h$th household; $y_{i,h}^*$ represents the desired or optimal level of expenditure on seafood.
goods for the hth household; \(x_h, z_h\) are vectors of socioeconomic factors (including the value of women’s time) affecting the selection and expenditures on these goods; \(\alpha_i\) and \(\beta_i\) are vectors of unknown parameters; and \(\zeta_{ih}\) and \(\mu_{ih}\) are randomly distributed additive disturbance terms following a bivariate normal distribution with zero means, unit variances and correlation coefficient \(\rho\).

The following relation is posited between the observed level of expenditures and the desired or optimal level of expenditures:

\[
y_{i,h} = y^*_{i,h} \quad \text{if } I^*_{i,h} > 0,
y_{i,h} = 0 \quad \text{otherwise.} \tag{8}
\]

\(I^*_{i,h}\) is a latent unobservable variable; however, we observe a dummy variable \(I_{i,h}\) such that

\[
I_{i,h} = 1 \text{ if } I^*_{i,h} > 0 \text{ and } I_{i,h} = 0 \text{ otherwise.}
\]

Equations 6–8 represent a system of equations in which the dependent variables are censored by a subset of unobservable latent variables.

Consistent two-step estimation procedures for this system remain very valuable, given that direct maximum likelihood estimation is complicated for most practical purposes. Amemiya (1974) proposed a practical consistent two-stage estimator for a multivariate regression model that is censored by latent variables. In this research, we implemented Amemiya’s procedure to consistently estimate the system of expenditure equations. These equations were estimated using only those observations for which the consumption of fresh and prepared seafood was positive. Notice that the probability of being in this sample (consumption of fresh seafood > 0 and consumption of prepared seafood > 0) is given by the following bivariate probability:

\[
M_{11,h} = P \left[ I^*_{\text{fresh},h} = x_h'\alpha_{\text{fresh}} + \zeta_{\text{fresh},h} > 0, I^*_{\text{prep},h} = x_h'\alpha_{\text{prep}} + \zeta_{\text{prep},h} > 0 \right] \tag{9}
\]

where \(I^*_{\text{fresh},h}\) and \(I^*_{\text{prep},h}\) are the latent unobservable selection variables for fresh and prepared seafood, respectively.

The procedure to correct for nonzero mean disturbance terms is summarized as follows: First, bivariate probit analysis was used to get estimates of the \(\alpha_i\)’s using all observations. Second, these bivariate probit estimates were used to compute probability (9). Third, these probabilities were used to compute the correction terms (Amemiya, 1974; Huffman and Lange, 1989). Finally, correction for
self-selectivity bias was done adding the correction terms and a new disturbance term (which has a zero conditional mean) to each expenditure equation.

The expenditure equation of the \( h \)th household that consumes fresh and prepared seafood goods is:

\[
y_{\text{fresh},h} = z_h' \beta_{\text{fresh}} + \gamma_{\text{fresh}} \left( S_{\text{fresh},h} / M_{11h} \right) + \varepsilon_{\text{fresh},h} \tag{10}
\]

\[
y_{\text{prep},h} = z_h' \beta_{\text{prep}} + \gamma_{\text{prep}} \left( S_{\text{prep},h} / M_{11h} \right) + \varepsilon_{\text{prep},h} \tag{11}
\]

where, following Amemiya (1974):

\[
S_{\text{fresh},h} = \sigma_{\text{fresh}}^2 f_{\text{fresh}} F_{\text{fresh}} + \sigma_{\text{fresh,prep}}^2 f_{\text{prep}} F_{\text{fresh}}
\]

\[
S_{\text{prep},h} = \sigma_{\text{prep}}^2 f_{\text{prep}} F_{\text{prep}} + \sigma_{\text{fresh,prep}}^2 f_{\text{fresh}} F_{\text{prep}}
\]

and

\[
\sigma_{\text{fresh}}^* = \sigma_{\text{fresh}}^2 - \left( \sigma_{\text{fresh,prep}}^2 / \sigma_{\text{prep}}^2 \right),
\]

\[
\sigma_{\text{prep}}^* = \sigma_{\text{prep}}^2 - \left( \sigma_{\text{fresh,prep}}^2 / \sigma_{\text{fresh}}^2 \right),
\]

\[
f_{\text{fresh}} = \text{Density of } \zeta_{\text{fresh}} \sim N(0, \sigma_{\text{fresh}}^2) \text{ evaluated at } x_h' \alpha_{\text{fresh}},
\]

\[
f_{\text{prep}} = \text{Density of } \zeta_{\text{prep}} \sim N(0, \sigma_{\text{prep}}^2) \text{ evaluated at } x_h' \alpha_{\text{prep}},
\]

\[
F_{\text{fresh}} = \text{Distribution function of } N(0, \sigma_{\text{fresh}}^*^2) \text{ evaluated at } x_h' \alpha_{\text{fresh}} - \left( \sigma_{\text{fresh,prep}}^2 / \sigma_{\text{prep}}^2 \right) x_h' \alpha_{\text{prep}},
\]

\[
F_{\text{prep}} = \text{Distribution function of } N(0, \sigma_{\text{prep}}^*^2) \text{ evaluated at } x_h' \alpha_{\text{prep}} - \left( \sigma_{\text{fresh,prep}}^2 / \sigma_{\text{fresh}}^2 \right) x_h' \alpha_{\text{fresh}},
\]

\[\varepsilon_{i,h} \text{ is the new zero conditional mean disturbance term.}\]

Finally, Weighted Least Squares techniques were used in the estimation of equations 10 and 11, because the new disturbance terms are heteroscedastic (Maddala, 1983; Greene, 1997).

**DATA AND VARIABLES USED**

The government of Spain periodically conducts household surveys (*Encuestas de Presupuestos Familiares*) in order to collect data related to expenditures and socioeconomic characteristics of Spanish households. The latest *Encuesta de Presupuestos Familiares*, conducted between April 1990 and March 1991, provides the basis for this research. It contains data for 21,155 Spanish families. In this research, we did not consider male single-headed households. The final
sample included 17,172 households. Consumption of fresh and prepared seafood totaled 8,925 (52.0%) households.

Following Traub and Odland (1979), we define prepared (or convenience) seafood goods as “any fully or partially prepared seafood in which significant preparation time, culinary skills, or energy inputs have been transferred from the homemaker’s kitchen to the food processor and distributor”. Hence, prepared seafood goods included commercially frozen or precooked seafood, cured and dried seafood, seafood frozen dishes, ready-to-cook seafood items, pre-stuffed seafood, and fish filets as well as ready-to-eat breaded, shucked, or commercially canned seafood products.

Definitions of the dependent and independent variables included in the models are presented in Table 1. Table 2 contains the sample statistics for the study’s continuous and binary variables.

RESULTS AND DISCUSSION

Based on previous research, we assumed endogeneity of the value of women’s time in seafood consumption (McCracken and Brandt 1987; Yen 1993). We used Tobit analysis to consistently estimate the market earnings equation, because the final sample included a large number of women not employed outside the home. The predicted values of women’s market earnings (based on the Tobit estimates) were used as proxies for the market value of women’s time (Manrique and Jensen 2001).

The parameter estimates obtained from the bivariate probit analysis were used to construct estimates of the correction terms for self-selectivity bias and to learn about the socioeconomic factors that affect the selection of seafood products (see Appendix A). The estimated correlation coefficient of the disturbance terms in the selection equations turned out not to be statistically different from zero. Thus, two univariate probit estimations of the selection equations would also be appropriate. In general, the analysis showed that most socioeconomic variables were statistically significant (25 out of 37) at $\alpha = .05$, suggesting that these variables are important in the selection of seafood products.

The parameter estimates of the bivariate probit regression could not be directly interpretable with respect to the magnitude of the effect. Marginal probability elasticities were used to quantify the magnitude of the marginal effect of a change in a continuous variable on the probability of consuming both fresh and
Table 1. Names and Description of Variables

<table>
<thead>
<tr>
<th>Variable Names</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dependent Variables</strong></td>
<td></td>
</tr>
<tr>
<td>confresh</td>
<td>Binary variable: household consumes fresh seafood (yes=1, no=0).</td>
</tr>
<tr>
<td>conprep</td>
<td>Binary variable: household consumes prepared seafood (yes=1, no=0).</td>
</tr>
<tr>
<td>fresh</td>
<td>Yearly expenditures on fresh seafood products (mill. of pesetas)</td>
</tr>
<tr>
<td>prepared</td>
<td>Yearly expenditures on prepared seafood products (mill. of pesetas).</td>
</tr>
<tr>
<td><strong>Continuous Independent Variables</strong></td>
<td></td>
</tr>
<tr>
<td>children</td>
<td>Number of household members aged 1-14</td>
</tr>
<tr>
<td>teenager</td>
<td>Number of household members aged 15-17</td>
</tr>
<tr>
<td>young</td>
<td>Number of household members aged 18-24</td>
</tr>
<tr>
<td>adult</td>
<td>Number of household members aged 25-64</td>
</tr>
<tr>
<td>elderly</td>
<td>Number of household members aged 65 and older</td>
</tr>
<tr>
<td>otherinc</td>
<td>Household’s income (excluding woman’s market earnings)</td>
</tr>
<tr>
<td>womage</td>
<td>Woman’s age</td>
</tr>
<tr>
<td>womaninc</td>
<td>Yearly women’s market income (mill. of pesetas)</td>
</tr>
<tr>
<td><strong>Dummy Independent Variables (yes = 1, no = 0)</strong></td>
<td></td>
</tr>
<tr>
<td>employed</td>
<td>Household head is employed</td>
</tr>
<tr>
<td>homepay</td>
<td>Household is a homeowner</td>
</tr>
<tr>
<td>south</td>
<td>Household resides in the southa</td>
</tr>
<tr>
<td>northeast</td>
<td>Household resides in the northeast and east</td>
</tr>
<tr>
<td>northwest</td>
<td>Household resides in the northwest</td>
</tr>
<tr>
<td>central</td>
<td>Household resides in the central region</td>
</tr>
<tr>
<td>urban</td>
<td>Household resides in central city or suburban area</td>
</tr>
<tr>
<td>womeduc</td>
<td>Woman head has at least a high school education</td>
</tr>
<tr>
<td>femhead</td>
<td>Household is a single-headed woman family</td>
</tr>
</tbody>
</table>

* Households that reside outside the Iberian Peninsula were the reference group in the regional location category.

Prepared seafood goods. They are defined as (Byrne, Capps, and Saha 1996)

\[ MPE = \phi(x_i' \alpha_i) \alpha_i [x / Pr (I = 1)] \]

where MPE refers to the marginal probability elasticities with respect to the s vector; \( \phi \) is the standard normal density; x represents the vector of sample means for the continuous explanatory variables; and \( Pr (I = 1) \) represents the probability of consumption predicted by the probit model. For the discrete
variables, we reported their marginal effects on the probability of consumption. The marginal effects are calculated as the finite changes in these variables as their values change from zero to one, *ceteris paribus*. The marginal probability elasticities and marginal effects for the decision to consume fresh and prepared seafood goods are reported in Table 3.

Women’s age has the largest MPE for both fresh and prepared seafood products, but these elasticities have opposite signs. A 1% increase in women’s age increases the probability of consuming fresh fish by 0.12% and decreases the
Younger families may be more exposed to advertising messages and to the stress of life (scarcity of time) and thus be more likely to consume prepared seafood goods. In contrast, older families may resist changes to their traditional lifestyles and also experience less exposure to the stress of modern times and the influence of advertising messages.

In general, the values of all other elasticities are relatively low. The positive MPEs for all age groups with respect to prepared seafood suggest that large potential market opportunities exist for expanded consumption of prepared seafood products in Spain. The positive MPEs for income and people aged 25 and older with respect to fresh seafood also suggest a future expanding market for these products.

The effects of dummy variables on the probability of consuming fresh and prepared seafood goods vary. For instance, northwestern households are 13% more likely to consume fresh seafood goods and 7% less likely to consume prepared

<table>
<thead>
<tr>
<th>Marginal Probability Elasticities</th>
<th>Fresh</th>
<th>Prepared</th>
</tr>
</thead>
<tbody>
<tr>
<td>Womage</td>
<td>0.1165</td>
<td>-0.1065</td>
</tr>
<tr>
<td>Children</td>
<td>-0.0103</td>
<td>0.0200</td>
</tr>
<tr>
<td>Teenager</td>
<td>-0.0001</td>
<td>0.0060</td>
</tr>
<tr>
<td>Young</td>
<td>-0.0071</td>
<td>0.0234</td>
</tr>
<tr>
<td>Adult</td>
<td>0.0627</td>
<td>0.0722</td>
</tr>
<tr>
<td>Elderly</td>
<td>0.0105</td>
<td>0.0193</td>
</tr>
<tr>
<td>Otherinc</td>
<td>0.0790</td>
<td>0.0146</td>
</tr>
<tr>
<td>Womeninc</td>
<td>-0.0002</td>
<td>0.0017</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Marginal Effects</th>
<th>Fresh</th>
<th>Prepared</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employed</td>
<td>0.0217</td>
<td>-0.0063</td>
</tr>
<tr>
<td>Homepay</td>
<td>0.0338</td>
<td>-0.0066</td>
</tr>
<tr>
<td>Womeduc</td>
<td>-0.0257</td>
<td>-0.0236</td>
</tr>
<tr>
<td>Urban</td>
<td>0.0499</td>
<td>-0.0329</td>
</tr>
<tr>
<td>South</td>
<td>0.1364</td>
<td>-0.0147</td>
</tr>
<tr>
<td>Northeast</td>
<td>0.0905</td>
<td>0.0120</td>
</tr>
<tr>
<td>Northwest</td>
<td>0.1310</td>
<td>-0.0682</td>
</tr>
<tr>
<td>Central</td>
<td>0.1028</td>
<td>0.0079</td>
</tr>
<tr>
<td>Femhead</td>
<td>-0.0189</td>
<td>-0.0116</td>
</tr>
</tbody>
</table>
seafood goods than households of the reference group. The northwestern region is one of the most coastal parts of Spain, resulting in its traditional consumption of fresh seafood. This region has an old tradition of cooking and preparing meals using fish as the main ingredient. Urban households are 5% more likely to consume fresh seafood goods and 3% less likely to consume prepared seafood goods than rural households. This may reflect the difference between urban and rural areas in terms of availability of fresh seafood and prices. This may also reflect the increasing availability of refrigerators and microwaves in rural areas. Virtually all of Spain’s households have refrigerators and 65% have microwave ovens (Deschamps and Weisenburger 2004). The effects of all other binary variables can be interpreted in the same manner.

Weighted Least Squares methods were used to fit the expenditure equations, with the sample selection terms included, to obtain consistent estimates and also to deal with heteroscedastic disturbance terms. Inasmuch as predicted variables were included in these regressions, the corresponding variance-covariance matrices of the estimates were adjusted for statistical inferences.6

* and ** denote statistical significance at 10% and 5%. Asymptotic t-values (based on corrected standard errors) are in parentheses. We used the Murphy-Topel approach (Murphy and Topel [23]) to adjust the variance-covariance matrix of the second-step estimators. See Footnote 5 for details on the adjustment procedure.

Table 4 presents the parameter estimates for these equations. Most of the parameter estimates were statistically significant (30 of 38) at a 5% significance level. The parameter estimates of the correction terms (or the covariance between the selection and expenditure equations) were statistically significant at α = .05. This indicates that the correction for selectivity bias was necessary. Table 5 contains the expenditure elasticities on seafood goods for the continuous variables.

We found that the opportunity cost of women’s time has a positive and statistically significant effect on the levels of expenditure for fresh and prepared seafood goods. This result confirms predictions of household production theory and findings from previous research for prepared food (Redman 1980; Nayga 1996, 1998; Manrique and Jensen 2001). Higher participation of women in the labor force and changes in the “traditional” family (declining birth rates, more one-person and two-person households, more households living on two incomes, etc) have reduced the time to prepare food, increasing the demand for prepared food, among them prepared seafood (Escudero 2000). Working women may also
be willing to purchase fresh but “easy to cook” (higher priced) seafood products. These positive effects, however, are small. A 1% increase in the value of women’s time increases yearly expenditures on fresh and prepared seafood by .02 and .02 % respectively. Nayga (1996) also found low values for the expenditure elasticities of prepared food and food prepared at home with respect to the value of the wife’s value of time. These low elasticities suggest that seafood consumption is not going to increase too much with the expected higher values of women’s time associated with current lifestyle, socioeconomic and demographic changes being experienced in Spain.

Income also has a positive influence on the level of expenditures of fresh sea-
food. Fresh seafood is income-inelastic, indicating that household expenditures on fresh seafood are not very responsive to changes in household income. Our estimated value of the income elasticity for fresh seafood (0.22) is very similar to those reported in earlier studies using cross-section data (Capps 1982; Keithly 1985; Perry 1981; Cheng and Capps 1988). Capps, Keithly and Perry reported income elasticities for total seafood of .17, .24 and .20 respectively. Cheng and Capps found income elasticities of .14 for total finfish and .11 for total shellfish. Keithly also reported an income elasticity of .47 for fresh seafood. Knowledge of these income elasticities could allow policymakers to anticipate the nutritional, health and dietary effects of expected higher incomes associated with European integration on Spanish families.

Women’s age is negatively related to expenditures on processed seafood. A 1% increase in women’s age decreases the level of expenditures on prepared seafood by 1.6%. Nayga (1996) also found that families with older wives spent more on food prepared at home than do others. This result may indicate that older families have a more traditional lifestyle than do younger families and prefer fresh seafood goods. Older women may also be less receptive to use modern time-saving kitchen equipment than younger women.

The number of family members of any age group positively affects the level of expenditure on seafood goods. For instance, a 1% increase in the number of young family members increases expenditures on fresh and prepared seafood by 0.08% and 0.21% respectively. Redman (1980) also found similar results for

| Table 5. Elasticities for Total Expenditures on Fresh and Prepared Seafood Products |
|------------------|------------------|------------------|
|                  | Fresh            | Prepared         |
|                  | Continuous Variables |                |
| Womage           | -0.4381          | -1.5930          |
| Children         | 0.0961           | 0.2311           |
| Teenager         | 0.0151           | 0.0483           |
| Young            | 0.0810           | 0.2088           |
| Adult            | -0.0313          | -0.0967          |
| Elderly          | 0.0300           | 0.0606           |
| Otherinc         | 0.2200           | -0.1846          |
| Womeninc         | 0.0186           | 0.0236           |
total prepared foods. She argues that as children grow older, the real wage of the mother increases (older children require less parenting time) implying that household production time decreases and market time increases.

The level of education also affects the purchasing patterns of seafood products. Households headed by women with at least high school education spend 7,000 pesetas more per year on fresh seafood than households headed by women with less than high school education. More educated women could possibly be better informed of nutritional and health advantages of consuming fresh seafood products than are less educated women. More educated women could also possibly be more concerned with cleanliness, the kind of ingredients used or the way these foods are prepared.

Urban households spend 17,000 pesetas less per year on fresh seafood and 36,000 pesetas less on prepared seafood than do rural households. This may reflect the difference between urban and rural areas with respect to prices and availability of seafood in general. Households outside the Iberian Peninsula (the reference category) consumed relatively more seafood than others. Households in the south spend 54,000 pesetas less per year on fresh and 77,000 pesetas less on prepared seafood products than households located outside the peninsula. Northwestern households spend 44,000 pesetas less on fresh and 75,000 pesetas less on prepared seafood goods than households of the reference group. Households located in the central part of the peninsula spend 29,000 pesetas less on fresh and 39,000 pesetas less on prepared seafood goods than households located outside the peninsula. The different location effects reflect differences among regions with respect to prices, tastes, lifestyles and tax structures.

Homeowners spend 12,000 and 21,000 pesetas less per year on fresh and prepared seafood than renters. Yen (1993) argues that homeowners may have higher average income than do renters but lower cash flow for a given income. In addition to that, considering prepared seafood only, homeowners may spend less on fresh and prepared seafood because a decision to own a home carries with it a willingness to assume the larger commitment of time necessitated by home production (Bellante and Foster 1984). This indicates that the opportunity cost of time for homeowners is not as great as it is for renters.

Finally, households with employed family heads spend 12,000 pesetas less on prepared seafood than households with unemployed family heads. This result may suggest that employed women spend more on other prepared foods and/or consume seafood away from home.
CONCLUDING REMARKS

The empirical evidence has shown that the value of women’s time (for expenditures on fresh and prepared seafood products), income and household demographic variables are all important determinants of selection and expenditures on seafood products. Moreover, the set of statistically significant factors in the selection and expenditure equations is not the same for each type of seafood goods.

The results of this research show the importance of modeling the value of women’s time (women are still responsible for most of the food selection and preparation activities) on the demand of foods requiring relatively little preparation time, like fresh and prepared seafood products. Specifically, as more women enter the Spanish labor force and their value of time increases, households reallocate food expenditures in favor of fresh and prepared seafood products.

The results suggest a growing future market for seafood goods based on expected increases in income and changes in social and demographic characteristics in Spain. With declining marine stocks, Spain will rely increasingly on imports to meet demand. These results could also be used by policymakers and industry planners to identify and promote appropriate long-run changes in the industry: support of aquacultural production, fleet reduction and transformation, fisheries agreements with Morocco and other European countries, etc. The findings of this research could also help producers and marketers of seafood products to better plan marketing strategies, anticipate future trends in the market, make a better use of resources, and identify new business opportunities. For instance, promotion intended to increase the demand for prepared seafood should focus on large, young, rural, renting families residing outside the Iberian Peninsula. Promotion intended to increase the demand for fresh seafood should focus on those households with higher income and education. Also, households that are renters or families with more children or young and elderly family members are more likely to consume fresh seafood. Promotion intended to develop markets for prepared seafood and to encourage both purchase and consumption of these products should focus on larger households with younger family heads.
Endnotes

1 However, this increase in consumption has slowed down in recent years and it is expected to decline for the next few years. This is mainly due to higher prices and lower catch (Deschamps and Weisenburger 2004). Since Spain’s entry into the European Union in 1986, Spanish fisheries have been faced with decreasing fishing quotas, which have decreased domestic fishing stocks. In November 2002, a vessel carrying over 20 million gallons of fuel oil sank about 150 miles from Spain’s Atlantic coast, crippling the fishing industry in Galicia. The spill is anticipated to reach Spain’s southern waters, where the world’s largest mussel beds are found. The disaster is expected to have a significant impact on Spain’s domestic fish and seafood supply for a number of years.

2 Traditionally Spanish households follow the “Mediterranean Diet,” which consists of seafood, vegetables, fruits, olive oil, wine and salads. Despite some shifts away from the “Mediterranean Diet”, Spain is still one of the leading per capita consumers of seafood products (both fresh and processed) in the European Union and third in the world after Japan and Portugal (Escudero 2000).

3 Seafood expenditures represent the second largest percentage within total food expenditures. In 2001, meat, seafood and food-away-from-home (excluding beverages) expenditures represented nearly 24.5%, 13.9% and 13.6% of total food expenditures respectively.

4 The inefficiency associated with this procedure is not an important problem in this research due to the large number of observations with positive consumption (for fresh and processed seafood) included in our dataset (Amemiya 1974).

5 The Encuesta de Presupuestos Familiares have been discontinued. Even though that the latest Encuesta de Presupuestos Familiares data is 13 years old, it can still be used to study seafood consumption patterns in Spain because these patterns have remained relatively stable since 1991. Seafood expenditures represented nearly 13% and 14% of total food expenditures in 1991 and 2003 respectively (Gracia and Albisu 1995; Escudero 2003). The share of fresh and processed seafood within seafood expenditures also remained relatively constant in the past years. Processed seafood expenditures accounted for about 52% of total seafood expenditures in 1991 and 1998 respectively (Gracia and Albisu 1995; Papageorgiou 2002). As mentioned before, higher prices, fishing quotas and oil spills have contributed to keep the consumption and expenditure levels relatively stable in the last decade.
Imputed or predicted regressors included as additional explanatory variables in the estimation of the second-step model of interest are measured with sampling error, so statistical inferences based on the estimated unadjusted covariance matrices (for the second-step estimators) are biased. Murphy and Topel (1985) have shown that under standard conditions, the second-step estimators are consistent and asymptotically normally distributed with asymptotic covariance matrix

\[ V_b^* = \sigma^2 V_b + V_b \left[ C V_c C' - C V_c R' - R V_c C' \right] V_b \]

where, if
\[ y_h = y (z_h, \beta, w_h, \delta) + \epsilon_h \]
is the second-step model of interest, and
\[ E = E (w_h, \delta) + c_h \]
is the auxiliary regression (first step model), then

\[ V_b \]
is the unadjusted variance-covariance matrix of the estimators of \( \beta \),
\[ V_c \]
is the variance-covariance matrix of the estimators of \( \delta \),
\[ C = n \lim (1/n) \sum_{h=1}^n z_h (\partial y (z_h, \beta, w_h, \delta) / \partial \delta'), \]
\[ R = n \lim (1/n) \sum_{h=1}^n \hat{e}_h (\partial g (w_h, \delta) / \partial \delta) \]
the function \( \partial g (w_h, \delta) / \partial \delta \) is the column vector of first derivatives of the log likelihood function with respect to \( \delta \); and \( \hat{e}_h \) is a column vector of residuals from the model of interest. It follows that \( \partial g (w_h, \delta) / \partial \delta = \hat{e}_h \left[ \partial E (w_h, \delta) / \partial \delta \right] \), where \( \hat{e}_h \) is a column vector of residuals from the auxiliary model.

The exchange rate during the survey period was approximately 1 US dollar = 80 pesetas. 1 Euro is equivalent to 166 pesetas.
REFERENCES


Capps, O. 1982. Analysis of aggregate fish and shellfish expenditure. Statistical Bulletin No. 82–1, Virginia Agricultural Exp. Station and Department of Agricultural Economics, Virginia Polytechnic Institute and State University.


### Appendix A.

**Parameter Estimates of the Bivariate Probit Regression**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Fresh Coefficient</th>
<th>t-ratios</th>
<th>Prepared Coefficient</th>
<th>t-ratios</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-0.565**</td>
<td>(-6.54)</td>
<td>0.815**</td>
<td>(8.67)</td>
</tr>
<tr>
<td>Womage</td>
<td>0.006**</td>
<td>(4.87)</td>
<td>-0.005**</td>
<td>(-3.44)</td>
</tr>
<tr>
<td>Womeduc</td>
<td>-0.089**</td>
<td>(-2.44)</td>
<td>-0.072*</td>
<td>(-1.87)</td>
</tr>
<tr>
<td>Urban</td>
<td>0.172**</td>
<td>(7.93)</td>
<td>-0.100**</td>
<td>(-4.44)</td>
</tr>
<tr>
<td>Employed</td>
<td>0.075**</td>
<td>(2.44)</td>
<td>-0.019</td>
<td>(-0.61)</td>
</tr>
<tr>
<td>Homepay</td>
<td>0.117**</td>
<td>(3.81)</td>
<td>-0.020</td>
<td>(-0.62)</td>
</tr>
<tr>
<td>Teenager</td>
<td>-0.001</td>
<td>(-0.04)</td>
<td>0.067**</td>
<td>(2.65)</td>
</tr>
<tr>
<td>Young</td>
<td>-0.045**</td>
<td>(-2.81)</td>
<td>0.121**</td>
<td>(7.22)</td>
</tr>
<tr>
<td>Adult</td>
<td>0.098**</td>
<td>(5.79)</td>
<td>0.093**</td>
<td>(5.34)</td>
</tr>
<tr>
<td>Elderly</td>
<td>0.058**</td>
<td>(2.55)</td>
<td>0.089**</td>
<td>(3.84)</td>
</tr>
<tr>
<td>South</td>
<td>0.478**</td>
<td>(10.28)</td>
<td>-0.063</td>
<td>(-1.23)</td>
</tr>
<tr>
<td>Northeast</td>
<td>0.270**</td>
<td>(6.10)</td>
<td>0.039</td>
<td>(0.79)</td>
</tr>
<tr>
<td>Northwest</td>
<td>0.438**</td>
<td>(8.68)</td>
<td>-0.193**</td>
<td>(-3.58)</td>
</tr>
<tr>
<td>Central</td>
<td>0.315**</td>
<td>(7.09)</td>
<td>0.026</td>
<td>(0.52)</td>
</tr>
<tr>
<td>Otherinc</td>
<td>0.091**</td>
<td>(12.22)</td>
<td>0.014</td>
<td>(1.57)</td>
</tr>
<tr>
<td>Wincome</td>
<td>-0.002</td>
<td>(-0.22)</td>
<td>0.016</td>
<td>(1.41)</td>
</tr>
<tr>
<td>Femhead</td>
<td>-0.070**</td>
<td>(-2.09)</td>
<td>-0.035</td>
<td>(-1.03)</td>
</tr>
<tr>
<td>Rho</td>
<td>-0.9904</td>
<td></td>
<td>(-0.24)</td>
<td></td>
</tr>
</tbody>
</table>

% of correct predictions$^a$ | 0.74 | 0.78 |
Rb | 0.169 | 0.142 |
Likelihood ratio$^c$ | 559.7* | 362.0* |

$^*$ and $^{**}$ denote statistical significance at 10% and 5%, respectively. Asymptotic $t$-values are in parentheses.

$^a$ An observation is predicted to be 1 if the predicted probability is 0.5 or larger, otherwise the observation is predicted to be zero.

$^b$ $1 - \log$ the likelihood function evaluated at the maximum likelihood estimates / $\log$ of the likelihood function when all coefficients, except the constant, are set to zero.

$^c$ Likelihood ratio test statistic $-2 \log L = -2 (\log L_{\text{restricted}} - \log L_{\text{unrestricted}})$ and $^*$ denotes significance at the 0.05 level.
A Critique of Including Financial Measures of Intellectual Capital on the Balance Sheet

Dr. John D. Morgan
Zayed University

INTRODUCTION
In recent years the concept intellectual capital has gained momentum and acceptance in European academic and business circles (Abouzeid and Drinkard 2002). One reason for a growing interest in intellectual capital has been a widespread recognition that the world’s economy has changed from one dominated by manufacturing and heavy industry into one much more reliant on information, scientific advances, and rapid technological change as the key forces driving economic growth. Accordingly, the relative importance of traditional physical assets such as plant and equipment has decreased, and the relative importance of intellectual assets such as employee knowledge, proprietary information, and experience has increased (Roslender and Fin cham 2001; McNabb 1998; Stewart 1998).

WHY REPORT INTELLECTUAL CAPITAL?
Sveiby, in his book, The New Organizational Wealth: Managing and Measuring Knowledge-Based Assets (1997), was among the first to recognize that traditional balance sheets neither measure nor report the value of a great many intangible factors that have much to do with a company’s value and future prospects. Sveiby and others point out that the magnitude of unreported intellectual capital (which Sveiby calls “invisible assets”) is quite large, and can often be five to ten times greater than reported assets on the balance sheet. As a result Sveiby and others have concluded the balance sheet is losing its relevance as a financial measure of firm worth. The idea of measuring and reporting intellectual capital on the balance sheet has been gaining some momentum in recent years.
In fact, several approaches to measuring and reporting intellectual capital have been proposed. One is to measure intellectual capital in traditional financial terms (dollars) and then include the measured amount on the balance sheet along with a corresponding increase to equity. In more recent years, a series of nonfinancial approaches to measuring intellectual capital have also been suggested (Bontis 2001). Under these approaches nonfinancial indicators of intellectual capital accompany the traditional balance sheet disclosures, but do not directly change them. Some of the better among these nonfinancial indicator approaches include Sveiby’s (1997) “Intangible Asset Monitor,” Edvisson and Malone’s (1997) “Skandia Navigator,” and Kaplan and Norton’s (1992) balanced scorecard.

Sveiby has suggested the approximate measure of the amount of a firm’s intellectual capital is the total difference between market value of aggregate company shares and book value of aggregate company shares. This difference, which he calls invisible assets because it does not appear on the balance sheet, is the main concern of this paper.

ARGUMENTS AGAINST REPORTING INTELLECTUAL CAPITAL

Suggestions in Europe and elsewhere for including a lump sum for intellectual assets on the balance sheet has led to little discernable interest or activity in the U.S. financial accounting community. Edmund L. Jenkins, chairman of the Financial Accounting Standards Board (FASB), has acknowledged the importance of intangible assets in the new economy, but at the same time has questioned whether they are, or ever will be, measurable in a useful way (Heffes 2001).

This paper presents several arguments against the idea of including intellectual capital directly on the balance sheet. Four separate, though somewhat overlapping, arguments are made.

First, from the standpoint of measurement theory, the construct intellectual capital defined as the difference between book value of net assets and market value of net assets is fatally flawed. The meaning of invisible assets under such a definition is so multifaceted and poorly elaborated it has no convergent or discriminant validity with other useful concepts. Second, there is no information content in reporting the difference between book value and market value of net assets on the balance sheet as intellectual capital, and thus it is at best pointless to include it on the balance sheet and is probably harmful. Third, summing balance sheet net assets has never been the best theoretical approach to estimating a firm’s
value. Value is more usefully conceptualized as the present value of discounted future net cash flows from operations, using a discount rate that best factors in risk. Fourth and finally, for nearly three decades financial reporting in America has been grounded in the bedrock of a conceptual framework carefully developed by the FASB and expressed in FAS concepts 1 through 5. This framework includes lengthy discussion of measurement issues that inform standards-setting about what can and what cannot be usefully measured in support of investment and credit decisions. Placing intellectual capital on the balance sheet violates basic principles of this theoretical framework.

**Argument 1: Fatally Flawed Construct**

*From the standpoint of measurement theory, measuring intellectual capital as the difference between book value of net assets and market value of net assets results in a fatally flawed construct.*

Construct validity is established only by understanding correlations between a construct of interest (intellectual capital, in this case) and one or more dependent variables (Hunter and Schmidt, 1990). The heterogeneous nature of a lump-sum measure of intellectual capital virtually guarantees as a construct it will be unpredictable and poorly mapped against other concepts of interest. The hows and whys of invisible assets will be no more predictable than stock prices and the stock market itself.

Sveiby (1997) suggests the approximate measure of a firm’s intellectual capital is the total difference between the aggregate market value of a company’s stock and the aggregate book value of the same stock and believes the total difference between these two arises from many disparate factors. Sveiby (2001) identifies three main categories of invisible assets: those related to external structure (relationships with suppliers and image), those related to internal structure (internal research and administrative systems), and those related to individual competence skills and knowledge of employees. To group the three together and place them as a lump-sum on the balance sheet creates an asset with many causes.

It is clear some of the difference between market value and book value of shares derives from internally generated intangible assets such as patents, trademarks, copyrights, trade secrets, and goodwill not presently part of the balance sheet due to practical measurement difficulties and the potential for unacceptable manipulation of earnings through their estimates. Furthermore, the few intangibles that are purchased from outside concerns and reported on the balance sheet are
valued at amortized cost, which can vary widely from market values as time passes.

Additional items resulting in differences between market and book value of company shares include expected value of future benefits from ongoing research and development projects, the expected future value of advertising campaigns, and the expected future value of reputation or name recognition in the market place. None of these items is presently included on the balance sheet because, again, accountants recognize the impossibility of accurately measuring the future benefits of such expenditures and also of estimating how to allocate those future benefits to expense. Estimating and reporting assets such as these, whose future benefits are unknown even within wide ranges, adds nothing to balance sheet utility and carries with it the high probability of destroying useful information in reported earnings. Accountants understand the potential for destroying earnings quality by measuring and allocating to expense highly speculative assets over highly speculative time periods. In such a world, management could easily manipulate earnings information to the degree that it would destroy any information content. At the same time, no real progress would be made towards providing objective or useful estimates of firm worth on the balance sheet.

Other differences arise from undervalued physical assets such as inventory, land, buildings, and equipment that are reported on the balance sheet at their historical cost less accumulated depreciation in some cases, and known to be generally lower than the fair market values at year-end.

Finally, market and book value of company shares may differ because investors recognize the potential value of existing employee knowledge, proprietary information, and the unique configurations of people and technologies existing within firms that can be used to solve difficult problems and meet future market needs. While company knowledge may increase a company’s stock price, like other things it cannot be objectively valued in terms of specific balance sheet assets and rationally allocated to expense over time.

The central point to keep in mind is that the construct *invisible assets* as the total difference between book value and market value of net assets lumps all of these disparate factors together in a single item for placement on the balance sheet. Such a multifaceted item can never be reliably mapped to other useful decision-making constructs. How can *invisible asset* be expected to behave relative to various financial events or new information? What causes *invisible assets* to grow or shrink? How are *invisible assets* related to earnings, to liquidity,
to solvency? Because *invisible assets* are not a single thing, but dozens, if not hundreds, of different things, the construct has no predictable or understandable characteristics, and is therefore no more predictable than the stock market itself. In short, establishing the convergent and discriminate relationships of *invisible assets* to other useful decision constructs will not be possible because the concept is intrinsically flawed and therefore has no utility in decision-making.

**Argument 2: Pointless and Harmful**

There is no information provided by placing the aggregate difference between market and book values of stock on the balance sheet, and thus it is pointless to include it and is probably harmful.

Annual reports of public companies already report the number of issued and outstanding shares of stock at year-end, as well as their year-end market prices. Aggregate market value is in fact a widely reported financial metric. Additionally, total book value of shares is readily available. The most basic of financial analyses compare these two pieces of information for insights.

It is misleading to suggest balance sheets are irrelevant in modern times because they do not include information about the difference between market value of firms and their accounting book values. A well known market test ratio, the *market value to book value ratio*, is already widely used in investment analyses to identify firms within industries that may have high or low multiples relative to industry averages. Inclusion of *invisible assets* on the balance sheet for the purpose of making balance sheets more informative in this respect is pointless. Awareness already exists.

Financial analysts and investors are of course keenly interested in *why* differences between market values and accounting book values exist and whether these differences suggest stock prices may be too high or too low. Nonetheless, including on the balance sheet a large opaque asset called *invisible assets*, defined as the difference between market value and book value of aggregate shares, provides no information whatsoever as to why these differences exist. It is a tautology to suggest there is information from placing a total difference between two numbers on the balance sheet as an explanation for why the differences exist (Jenkins and Upton 2001).

Though including *invisible assets* on the balance sheet would have no information value, it would carry with it some potentially harmful outcomes in other areas of investor decision making. Long-used profitability and solvency ratios
would be altered in disruptive and confusing ways. *Invisible assets* would make it difficult to determine the meanings of traditional ratios. Profitability ratios such as *return on assets* and *return on equity* would likely tend to decline even though income is rising, because stock prices based on multiples of income would also be increasing. The increase to the denominator from *invisible assets* increases would likely more than offset the benefits of the rising income numbers. Profitability ratios would end up negatively correlated to profit trends, a counterintuitive and seemingly irrational result.

Solvency ratios would also become more difficult to interpret under this altered reporting regime, because stock price movements would change ratio results drastically. A twenty percent change in stock price would result in nearly as large a change to the debt ratio and an even larger change to the equity ratio. Solvency ratios would be as variable as stock prices, making them difficult to interpret, and in many cases creating havoc in bond ratings models and resulting in debt covenant violations related only to stock price variations. A simple example is used below for a hypothetical company for two years to demonstrate this point. Year one compares two companies with and without including intellectual capital on the balance sheet. Year two assumes all the same facts, but assumes a 50% decline in the market value of company shares.

<table>
<thead>
<tr>
<th>Traditional Balance Sheet Year 1 (In Millions)</th>
<th>Invisible Assets Balance Sheet Year 1 (In Millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ASSETS</strong></td>
<td></td>
</tr>
<tr>
<td>Current and long-term assets</td>
<td>$ 250</td>
</tr>
<tr>
<td>Total assets</td>
<td>$ 250</td>
</tr>
<tr>
<td><strong>LIABILITIES &amp; EQUITY</strong></td>
<td></td>
</tr>
<tr>
<td>Current and long-term liabilities</td>
<td>$ 100</td>
</tr>
<tr>
<td>Stockholders’ equity</td>
<td>$ 150</td>
</tr>
<tr>
<td>Total liabilities &amp; equity</td>
<td>$ 250</td>
</tr>
<tr>
<td><strong>Debt Ratio Year 1 (traditional)</strong></td>
<td></td>
</tr>
<tr>
<td>100/250 = 40%</td>
<td></td>
</tr>
<tr>
<td><strong>Equity Ratio Year 1 (traditional)</strong></td>
<td></td>
</tr>
<tr>
<td>100/150 = 66.67%</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Traditional Balance Sheet Year 1 (In Millions)</th>
<th>Invisible Assets Balance Sheet Year 1 (In Millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ASSETS</strong></td>
<td></td>
</tr>
<tr>
<td>Current and long-term assets</td>
<td>$ 250</td>
</tr>
<tr>
<td>Invisible assets</td>
<td>2,250</td>
</tr>
<tr>
<td>Total assets</td>
<td>$ 2,500</td>
</tr>
<tr>
<td><strong>LIABILITIES &amp; EQUITY</strong></td>
<td></td>
</tr>
<tr>
<td>Current and long-term liabilities</td>
<td>$ 100</td>
</tr>
<tr>
<td>Stockholders’ equity</td>
<td>$ 2,400</td>
</tr>
<tr>
<td>Total liabilities &amp; equity</td>
<td>$ 2,500</td>
</tr>
<tr>
<td><strong>Debt Ratio Year 1 (with invisible assets)</strong></td>
<td></td>
</tr>
<tr>
<td>100/2,500 = 4%</td>
<td></td>
</tr>
<tr>
<td><strong>Equity Ratio Year 1 (with invisible assets)</strong></td>
<td></td>
</tr>
<tr>
<td>100/2,400 = 4.17%</td>
<td></td>
</tr>
</tbody>
</table>
### Traditional Balance Sheet Year 2 (In Millions)

<table>
<thead>
<tr>
<th>ASSETS</th>
<th>Current and long-term assets</th>
<th>$250</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total assets</td>
<td>$250</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LIABILITIES &amp; EQUITY</th>
<th>Current and long-term liabilities</th>
<th>$100</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Stockholders’ equity</td>
<td>150</td>
</tr>
<tr>
<td></td>
<td>Total liabilities &amp; equity</td>
<td>$250</td>
</tr>
</tbody>
</table>

### Invisible Assets Balance Sheet Year 2 (In Millions)

<table>
<thead>
<tr>
<th>ASSETS</th>
<th>Current and long-term assets</th>
<th>$250</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Invisible assets ((.5 X 2,500)- 250)</td>
<td>1,000</td>
</tr>
<tr>
<td></td>
<td>Total assets</td>
<td>$1,250</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LIABILITIES &amp; EQUITY</th>
<th>Current and long-term liabilities</th>
<th>$100</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Stockholders’ equity</td>
<td>1,150</td>
</tr>
<tr>
<td></td>
<td>Total liabilities &amp; equity</td>
<td>$1,250</td>
</tr>
</tbody>
</table>

**Debt Ratio Year 2 (traditional)**  
\[
\frac{100}{250} = 40\%
\]

**Equity Ratio Year 2 (traditional)**  
\[
\frac{100}{150} = 66.67\%
\]

**Debt Ratio Year 2 (with invisible assets)**  
\[
\frac{100}{1,250} = 8\%
\]

**Equity Ratio Year 2 (with invisible assets)**  
\[
\frac{100}{1,150} = 8.70\%
\]

Note the large difference between both ratios under traditional and nontraditional balance sheets in each year. Also note how a 50% decline in stock price between the years (all other things equal) results in a 100% deterioration of the debt ratio (from 4% to 8%) and a more than 100% deterioration of the equity ratio (from 4.17% to 8.70%).

In short, while there is no added information content in placing invisible assets on the balance sheet, including them would likely confuse analysts and investors in other areas, such as conducting traditional ratio analyses of financial statements.

**Argument 3: Firm Valuation**

*Summing balance sheet net assets has never been the best theoretical approach to measuring a firm’s value.*

Financial experts have long recognized the insurmountable difficulties of identifying all individual items of value affecting company stock prices at year-end and objectively measuring them at current market values or discounted net cash flow equivalents. As a result, balance sheets must be viewed as partial lists of assets, many measured at historical costs to meet the requirements of objectivity. Users of financial information demand objectivity if they are to trust that information for investment decisions.
Accountants have long understood that balance sheet net assets were never intended to reflect total firm value. The practical limitations of asset measurement in many cases require the balance sheet to be, at best, a partial list of assets, including only those that can be objectively identified and measured. Because a more crucial reporting objective has long been reporting a relatively bias-free and objective net income amount, most balance sheet assets are measured at historical costs rather than at their more subjective market values or discounted cash flow equivalents. Assets with no objective measures like historical cost are simply not included on the balance sheet or in related net income expense allocations, because of the subjectivity they create in net income. This approach has long been accepted as the lesser of two evils.

Firm valuation is therefore best conceptualized as the sum of discounted future net cash flows from firm earnings rather than the direct sum of balance sheet net assets. The discounted cash flows model is more workable, and in many ways more theoretically accurate when estimating total firm value.

Financial analysts generally agree firm value should be thought of as a function of the interaction between investors’ collective expectations about risks and returns of investing. Expectations about returns rely relatively more on estimates of a company’s income and cash flows than on the balance sheet assets. Information outside the formal financial statements, such as evaluations of the potential for company and industry growth, demographic data, directions of technological change, and analysis of competition, are also extremely important. Within this larger set of information, the balance sheet is only marginally important for assessing the value of a firm.

Investment risk can be thought of as the uncertainty about the amounts and timing of future cash flows from earnings. Some investments do have much higher uncertainty than others. The balance sheet, with or without invisible assets on it, has only limited usefulness in assessing overall risk. The balance sheet provides very useful insights about existing debt levels, which is important to assessing risk. But beyond that, risk is assessed in multiple ways not directly related to the balance sheet. Risk is quantified crudely in discounted cash flow models, by selecting an appropriate discount rate.

When balance sheets are understood as what they are in an imperfect measurement world, (i.e., an incomplete lists of assets including only those that can be objectively measured and usually at historical cost), it is even more difficult to understand the benefit of adding Sveiby’s invisible assets to the balance sheet.
To do so would in fact be strikingly inconsistent with balance sheet measurement traditions and serve little useful purpose in assisting investors as they form expectations about risk and return. In short, if helping investors estimate the total value of a firm is the main reason for including invisible assets on the balance sheet, the overall approach is not the best theoretical approach, nor is it practical given measurement realities.

**Argument 4: Flouting the FASB**

*Including invisible assets on the balance sheet is inconsistent with the conceptual framework for financial accounting theory developed and adopted by the Financial Accounting Standards Board three decades ago and expressed in FAS Concepts 1 through 5*

The Financial Accounting Standards Board (FASB) has served as an independent quasigovernmental body for establishing accounting measurement and reporting standards in the United States since the 1970s. One of its earliest endeavors was to complete a *Conceptual Framework Project* for the purpose of developing a coherent set of financial accounting and measurement rules, to serve as the overall frame of reference for guiding accounting standards setting, measurement approaches, and reporting rules in financial accounting as they develop over time.

The first concept developed, Statement of Financial Accounting Concept (SFAC) No. 1, determined the overarching objective of all financial reporting was to provide user groups enough information to afford a reasonable basis for choosing among alternative uses of scarce resources. Among the user groups most mentioned were securities markets investors, potential investors, and creditors. Specifically, SFAC No. 1 indicated that a central goal of financial reporting was to provide information useful in making investment and credit decisions in the securities markets.

Later, in Statement of Financial Accounting Concept (SFAC) No. 5, the committee developed and supported *comprehensive income* as the best measure of income to assist and protect securities market investors from hidden changes to stockholders’ equity never included on the income statement. Comprehensive income was deemed crucial because reported earnings are so heavily noticed and used by investors in firm valuation models. Requiring companies to report comprehensive income each year has become a central means to protect investors from changes to investment equity that remain outside the notice of the most widely used firm valuation models. In particular SFAC No. 5 said:
“Comprehensive income is the change in equity (net assets) of an entity during a period from transactions and events and circumstances from non-owner sources. It includes all changes in equity during a period except those resulting from investments by owners and distributions to owners” (Financial Accounting Standards Board, 1984).

In other words, all increases or decreases to equity on the balance sheet (except those involving direct owner investment or withdrawal) must be reported first as items of income or loss on the current income statement so they do not go unnoticed. This is part of a belief that the income statement is perhaps the most central of all financial statements to investors’ decisions and valuation models.

Including intellectual capital on the balance sheet in the manner Sveiby has suggested, without including the changes to equity on the income statement, violates this bedrock accounting principle believed crucial for protecting securities investors from hidden events. To make an exception for the sake of including invisible assets on the balance sheet is a bad precedent and opens a door through which other exceptions could follow, to the detriment of stock market investors who rely so heavily on the complete picture of reported net income.

**CONCLUSION**

I have argued from the perspective of accounting measurement and decision-maker needs, that placing intellectual capital on the balance sheet is a very poor idea. The concept itself remains a poorly elaborated amalgam of ideas, not well mapped with other constructs, and is no more predictable than the stock market itself. Including the aggregate difference between market value and book value of company stock on the balance sheet provides no new information to investors and may confuse other aspects of financial analysis. Better theoretical models to estimate firm value presently exist. If the motivation for including intellectual capital on the balance sheet is merely to equate balance sheet net assets with firm market valuation, it is a specious solution, the logic is circular, and the effect is to add no information. Finally, the unwillingness of the financial accounting community to report invisible assets on the balance sheet is not a function of laziness, nor is it oversight, nor is it unwillingness to change with the times. Rather it is grounded in the bedrock belief that financial accounting measurements have practical limitations and that ignoring them does more harm than good to external financial decision-makers.
REFERENCES


INTRODUCTION

In the 1990s, ethical practices became a high priority for some businesses. The use of advertising to promote professional practices is still new to many. Professionals encounter the same economic problems as most other businesses today. Without an ongoing marketing plan, many professionals find they are not prepared for the changing business environment.

Advertising by members of the professions is a relatively recent phenomenon. Whether a person views one of the many thousands of lawyer advertisements shown on television every day, receives a spam e-mail advertisement from a law firm, or sees some of the hundreds of highway billboards promoting a lawyer’s services, most people have become aware of the fact that lawyer advertising has increased dramatically since the U.S. Supreme Court held, 27 years ago, that lawyer advertising was protected by the first amendment (Bates 1977). During the years following the Bates decision, the Supreme Court has decided seven lawyer advertising cases. A review of the decisions reveals that, while the court has permitted some state limitations on lawyer advertising, the right of lawyers to engage in truthful, nondeceptive, commercial advertising has consistently been upheld (Martel 1997; Filler 2002).

In the years following the Bates decision, the business of practicing law has undergone major changes. In order to survive in a changing and competitive business environment, most law firms have been required to adopt modern business practices such as the use of electronic technology and planning for large advertising budgets. Many law firms now use marketing consulting firms or
have their own internal marketing committees (Clarke 1996; Cutler, Moberg and Schimmel 1999; Sahl 2003). The National Association of Law Firm Marketing Administrators grew from an initial membership of 23 in 1985 to more than 500 in 1989 and had more than 1,500 members in 2002 (Grey 1987).

**PURPOSE OF THE STUDY**

In this study, I will examine the effect of the *Bates* decision on a specific professional field, namely lawyers. I will use a survey instrument previously developed by Hite (1982) and Miller and Waller (1979) to determine (a) consumers’ attitudes toward advertising by lawyers, (b) whether certain potential consumer demographic variables account for any significant difference in attitudes toward lawyers who advertise, and (c) which media consumers feel are appropriate for lawyer advertising.

The results of this study may be useful to lawyers and other professionals who want to create more effective marketing strategies for their businesses. The use of advertising by the members of some professions could trigger the development of additional comprehensive marketing programs by other professionals and may also provide numerous consulting and employment opportunities for people with marketing expertise—including academicians and advertising/public relations firms.

**BACKGROUND**

The Yellow Pages have been the most popular form of lawyer advertising (Abernethy and Butler 1991). Such ads are now the top revenue category for the directory, with lawyers spending more than $700 million annually to be listed (Millazzo 1999). In the year 2000, lawyers spent $230 million on television advertising just in the nation’s top 75 TV markets (Freedman 2001). That figure had increased to $312 million by 2002. There are many law firms that now have annual budgets of more than $6 million for television advertising (Oreskovic 2003). Even several of the most conservative large law firms with more than 100 members now run television ads (Geyelin 1992).

As evidence that lawyer advertising has become an entrenched and accepted practice, studies show that by 2002 more than 90 percent of the members of the American Bar Association (ABA) were using or had tried some form of advertising, such as yellow pages, magazines, newspapers, television, the Internet, law firm Web pages, newsletters, or even highway billboards. That number is up from only three percent in 1978 and 25 percent in 1986 (Roha 1987; MacDonald
and Raymond 1991). In 1992 the ABA began sponsoring an annual “best ad” award program and now publishes a how-to book on creative advertising (Abernethy and Butter 1991; Cutler, Moberg and Schimmel 1999; Pribek 2002). Also the ABA has adopted a set of goals acknowledging that “lawyer advertising is a key facet of the marketing and delivery of legal services to the public” (Birdsell and Janow 2002).

Even with the evidence that the level of participation in and acceptance of advertising by members of the legal profession has increased dramatically during the past 27 years, there are many in the profession who still strongly criticize the practice. The lawyers who do advertise maintain that advertising makes legal services more readily available to consumers and insures the “fullest possible dissemination of commercial information” (Kinsler 1993). They also point out that advertising leads to price competition, which benefits consumers (Sahl 2003). Many less-established lawyers simply maintain that advertising is essential in order to attract new business in a highly competitive marketplace (Cutler, Moberg and Schimmel 1999). Those who are opposed claim quality is sacrificed for quantity and that advertising downgrades the status and image of the profession (Rotunda 1997; Florida Bar News 2001). The argument over what, where, and when lawyers can advertise has not yet been settled. In recent years, local regulators in many states have adopted or proposed very restrictive lawyer advertising rules. As new rules come into play, they will be tested in the courts. In the meantime, most lawyers will continue to advertise (Watkins 1997; Roha 1987; Sokolove 2000; Beckman and Hirsch 2000; Kirkland 2003; Robbins 2003; Walter 2003).

While the attitude of lawyers toward lawyer advertising is mixed and the attitude of most state regulators has generally been negative, the attitude of consumers has historically been fairly positive (Hite 1982; Murdock 1984; Schmitt 1995; Rotunda 1997; Dunnigan 1997). Since lawyer advertising became commonplace after the Bates decision, there have been many professional-association-sponsored and academic studies designed to measure consumers’ and lawyers’ attitudes toward advertising. One 1983 study found that the majority of consumers believed it was appropriate for lawyers to advertise in the yellow pages, professional journals, newspapers, and magazines (Murdock 1984). Studies have shown that advertising that is believable and presents the lawyer as likable positively affects consumers’ perception of the individual lawyer (Kilbourne 1990). A study published in 1991 found that the majority of consumers considered
lawyer advertising to be professional and that most ads provided useful information (MacDonald and Raymond 1991).

The question that is of concern to practicing lawyers—does advertising by lawyers help attract new clients?—has been the focus of several academic studies. The answer has been a solid “yes.” The studies show most lawyers who advertise will see an increase in the number of clients, but that the new clients will likely be middle- to lower-income people. Lawyers who advertise quickly discover that advertising is usually very expensive but works if done properly. One study found the return on dollars invested in advertising was four to six times the cost (Dunnigan 1997; Abercombe 1998; Millazzo 1999; Freedman 2001).

The above discussion shows that lawyer advertising usually is found to be protected by the first amendment. It shows that advertising works, produces an increase in client flow, and yields a good return on the lawyer’s advertising dollars. It shows that historically consumers have had a positive view of lawyers who advertise and believe lawyer advertisements provide useful information. It shows that, after three decades of changing practices in the field of legal advertising, it is time to make a new assessment of consumer attitudes toward legal advertising.

THE PRESENT STUDY

In this study, I will refine and validate the Attitudes Toward Advertising by Lawyers Scale (ATALS) developed first by Hite (1982) and Miller and Waller (1979). First, I will use principal components factor analysis to refine and develop the instrument and validate an Attitudes Toward Advertising by Lawyers Scale (ATALS). Second, I will use cross-tabulations with the scale and various demographic variables to see how reliable the scale is, among the different demographic sections. Then I will divide the ATALS scores into three categories (high, median, and low) and conduct a multivariate analysis of the covariance (MANCOVA) on the ATALS scores, to determine differences in people’s attitudes toward advertising using different forms of media and their actual image of lawyers, while controlling for any influential demographic variables. The results would allow advertisers to match the appropriate advertising media to the consumers, to maximize the effectiveness and efficiency of advertising for lawyer services. These results may also validate the scale.

Based on the literature presented earlier, I expect lawyer advertising to be well received by consumers, because it is prevalent in today’s environment (Birdsell
and Janow 2002), leads to price competition (Sahl 2003), is essential to attracting new business (Cutler, Moberg and Schimmel 1999), and allows for wide dissemination of information (Kinsler 1993). Moreover, I expect consumers to be open to all forms of advertising with the exception of telemarketing, which has generally not been well received across all industries (Anonymous 2003; Moses 2003). With that in mind, I will test the following hypotheses.

**Hypothesis 1:** People with high ATALS scores are more likely to have a high image of lawyers than those with median or low scores.

**Hypothesis 2:** People with high ATALS scores are expected to have more positive attitudes toward the use of different kinds of media for advertising lawyers’ services than those with median or low scores. People with high scores, however, will have the same perceptions about telemarketing as those with median or low scores.

**METHOD**

**Participants**

The researcher asked the Marketing System Group to draw a random sample of 4,000 consumers from seven metropolitan statistical areas in a state located in the southeastern U.S. Appropriate numbers from each city were drawn according to the ratio of each city’s population to the total population of all seven urban areas. A two-page survey questionnaire was mailed to these consumers.

**Measures**

The survey questionnaire examines respondents’ demographic characteristics (i.e., age, sex, race, education, marital status, number of children in household, total family household income, and professional status), further verified by checking job titles and income levels. I adopted and modified the research instruments developed by Hite (Hite, 1982) and Miller and Waller (Miller and Waller 1979). This instrument has a 19-item scale designed to measure how favorably consumers respond to advertising by lawyers, using a Likert-type scale with strongly agree (5), agree (4), undecided (3), disagree (2), and strongly disagree (1) as anchors.

Respondents were asked to select one of the following age categories: 18–25, 26–35, 36–45, 46–55, and 56 and older. For sex, male is coded as 1 and female as 2. Race has three categories: white (1), black (2), and other minority (3).
Marital status involves five possible categories: single, married, divorced, widowed, and separated. Total family income includes the following categories: (1) $15,000 or less, (2) $15,001–30,000, (3) $30,001–45,000, (4) $45,001–60,000, and (5) $60,001 and above. Education is measured by the following choices: (1) less than high school graduate, (2) high school graduate, (3) some college, (4) college graduate, and (5) advanced degree. Further, participants were asked to rate the appropriateness of 10 different media (i.e., television, radio, newspaper, billboard, telephone, direct mail, professional magazine, popular magazine, Internet, and yellow pages) for advertising, using a five-point scale.

RESULTS
Demographic Variables
The two-page questionnaire generated 439 usable questionnaires for this study. Among the 439 participants, 262 were male and 167 were female (missing data = 10). Regarding age, 30 (6.8%) were between 18 and 25, 55 (12.5%) were between 26 and 35, 79 (18%) were between 36 and 45, 97 (22.1%) were between 46 and 55, and 172 (39.2%) were 56 and older.

In terms of race, the majority was white (87.2%). Eighty-three respondents (18.9%) were single, 267 (60.8%) were married, 52 (11.8%) were divorced, and 28 (6.4%) were widowed. Further, 11 (2.5%) had less than a high school education, 57 (13%) were high school graduates, 125 (28.5%) had some college, 139 (31.7%) were college graduates, and 91 (20.7%) had advanced degrees. Moreover, 216 were professional and 206 were nonprofessional. Regarding total household income, 24 (5.5%) earned $15,000 or less, 52 (11.8%) earned $15,001–30,000, 61 (13.9%) earned $30,001–45,000, 73 (16.6%) earned $45,001–60,000, and 198 (45.1%) earned $60,001 or more. Participants in the present study were mostly white, male, age 56 or older, and married. They also had a college education and high income. Participants in this sample, therefore, do not match the general U.S. population perfectly. However, there was no reason to believe this sample was atypical.

Exploratory Factor Analysis
Using SPSS, I analyzed the results of the survey on attitudes toward advertising (19 items) by applying the principal component factor analysis method to a randomly drawn half of the sample (n = 205). Three factors met the criterion of eigenvalues greater than one and were verified using a scree test and varimax rotation. The results indicated three significant factors: factor 1 (8 items, eigen-
value = 8.92, variance = 28.42), factor 2 (9 items, eigenvalue = 1.58, variance = 24.59), and factor 3 (2 items, eigenvalue = 1.23, variance = 8.72). The three factors explained approximately 61.74% of the variance. Factor 1 mainly related to negative attitudes toward lawyer advertising; factor 2 was associated with positive attitudes toward lawyer advertising, and factor 3 corresponded with lawyer selection criteria. Many items had high cross loadings.

To simplify the scale and reduce cross-loadings, I selected 11 items from the scale for further study. These 11 items were reanalyzed using the dataset from the first study, and one factor was clearly identified as relating to attitudes toward lawyer advertising. I labeled this factor Attitudes Toward Advertising by Lawyers Scale (ATALS) and validated it for the full sample (n = 429). Table 1 shows the individual items, their factor loading, explained variance (64.27%), and eigenvalue (7.07) for the full sample. The Cronbach’s alpha for this instrument is 0.94, well above the generally accepted value of 0.70. This instrument has a high level of internal consistency. Note: the factor is also an indicator of how likely an individual is to use (if needed) the services of a lawyer who advertises (Item 3).

**Correlations**

Table 2 shows the means, standard deviations, and Spearman correlations for the demographic variables, ATALS factor, and advertising media. ATALS was shown to be highly significantly correlated to all 10 forms of advertising media, suggesting that those who had positive attitudes toward advertising by lawyers also had a similar attitude toward all 10 forms of advertising. ATALS was also significantly and positively correlated with age, marital status, income, and education level, but significantly negatively correlated with race (i.e., minorities tend to have a more negative attitude toward advertising by lawyers).

The ATALS scores were recoded as high, median, and low, and cross-tabulations were conducted on the three categories of ATALS against the demographic variables. Significant results are presented in Table 3. In summary, there were significant relationships between ATALS and age, sex, race, education level, marital status (recoded as single/divorced/widowed versus married/separated), and income level (recoded as low for $60,000 or below versus high for $60,001 or above). Individuals with high ATALS scores tended to be younger, female, black, less educated, and single with lower income levels.
### Table 1. Results of Exploratory Factor Analysis

<table>
<thead>
<tr>
<th>Item</th>
<th>Factor Loading</th>
<th>Mean</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The public would be provided useful information through advertising by lawyers.</td>
<td>0.84</td>
<td>3.28</td>
<td>1.15</td>
</tr>
<tr>
<td>2. Advertising makes the public more aware of the qualifications of lawyers</td>
<td>0.83</td>
<td>3.31</td>
<td>1.15</td>
</tr>
<tr>
<td>3. I would use the services (if needed) of lawyers who advertise.</td>
<td>0.83</td>
<td>3.06</td>
<td>1.07</td>
</tr>
<tr>
<td>4. I would like to see more advertising by lawyers.</td>
<td>0.83</td>
<td>3.80</td>
<td>1.05</td>
</tr>
<tr>
<td>5. It is proper for lawyers to advertise.</td>
<td>0.83</td>
<td>3.04</td>
<td>1.14</td>
</tr>
<tr>
<td>6. Advertising would help consumers make more intelligent choices among lawyers.</td>
<td>0.82</td>
<td>3.39</td>
<td>1.09</td>
</tr>
<tr>
<td>7. Advertising by lawyers would be a useful means of informing potential clients about services and specialties.</td>
<td>0.81</td>
<td>2.73</td>
<td>1.82</td>
</tr>
<tr>
<td>8. I would be suspicious of lawyers who advertise.</td>
<td>-0.81</td>
<td>2.85</td>
<td>1.15</td>
</tr>
<tr>
<td>9. Advertising by lawyers would tend to lower the credibility and dignity of their services.</td>
<td>-0.79</td>
<td>2.81</td>
<td>1.17</td>
</tr>
<tr>
<td>10. In general, my image of lawyers would be lower as a result of their advertising.</td>
<td>-0.76</td>
<td>2.74</td>
<td>1.16</td>
</tr>
<tr>
<td>11. Advertising will increase the quality of lawyers’ services in the future.</td>
<td>0.66</td>
<td>3.89</td>
<td>1.01</td>
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Amount of variance explained: 64.27
Eigenvalue = 7.07
Cronbach alpha = 0.94
N = 429
### Table 2: Means, Standard Deviations and Spearman’s Correlations of Major Variables (Whole Sample)

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<td>- .03</td>
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<td>.17**</td>
<td>.13**</td>
<td>.26**</td>
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<td>.23**</td>
<td>.25**</td>
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<td>.11*</td>
<td>0.01</td>
<td>- .27**</td>
<td>- .15**</td>
<td>- .10**</td>
<td>- .08</td>
<td>- .09</td>
<td>- .08</td>
<td>- .06</td>
<td>- .02</td>
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<td>- .08</td>
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<td>0.08</td>
<td>- .10*</td>
<td>0.02</td>
<td>- .19**</td>
<td>- .21**</td>
<td>- .16**</td>
<td>- .15**</td>
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<td>- .09</td>
<td>- .16**</td>
<td>- .12*</td>
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</table>

Note: N (439) varies between 3.99 and 4.33. *p < .05, **p < .01.

Sex: Male = 1, Female = 2; Occupation: Professional = 1, Non-professional = 2.
Table 3. Results of Significant Cross-Tabulations

<table>
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<tr>
<th>Variable</th>
<th>Categories</th>
<th>High</th>
<th>Med</th>
<th>Low</th>
<th>Total</th>
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Chi-square (8) = 26.45***; Kendall’s tau-b = -.15***, T = -3.72; Gamma = -.21***, T = -3.72

<table>
<thead>
<tr>
<th>Variable</th>
<th>Categories</th>
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<th>Med</th>
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<td>Expected</td>
<td>140</td>
<td>142</td>
<td>137</td>
<td>419</td>
</tr>
<tr>
<td></td>
<td>% of Total</td>
<td>33.41</td>
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<td>32.70</td>
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Chi-square (2) = 8.68*; Kendall’s tau-b = .11*, T = 2.38; Gamma = .19*, T = 2.38
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<td>376</td>
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<td>Black</td>
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<td>2.63</td>
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<td>140</td>
<td>33.49</td>
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Chi-square (4) = 13.96**; Kendall’s tau-b = .14**, T = 2.93; Gamma = .40**, T = 2.93

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<td>10</td>
<td>10</td>
<td>2.42</td>
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</tr>
<tr>
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<td>Count</td>
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<td></td>
<td>56</td>
<td>56</td>
<td>13.53</td>
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<tr>
<td>Some college</td>
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<td>40.04</td>
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<td>38</td>
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<td>31</td>
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<td>51</td>
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<td>45</td>
<td>45.66</td>
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<td></td>
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<tr>
<td>Advanced degree</td>
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<td>30.11</td>
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<td>Total</td>
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<td></td>
<td>414</td>
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Chi-square (8) = 20.05**; Kendall’s tau-b = -.15***, T = -3.47; Gamma = -.21**, T = -3.47
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<td>57</td>
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<td></td>
<td>155</td>
<td>155</td>
<td>36.82</td>
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<tr>
<td>Married/Separated</td>
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<td>89.09</td>
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<tr>
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<td>85</td>
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Chi-square (2) = 6.55*; Kendall’s tau-b = -.11*, T = -2.39; Gamma = -.19**, T = -2.39

<table>
<thead>
<tr>
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<th>% of Total</th>
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<td>69.19</td>
<td>20.45</td>
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<tr>
<td></td>
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<td>50</td>
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<tr>
<td></td>
<td>204</td>
<td>204</td>
<td>50.87</td>
<td></td>
</tr>
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<td>High income</td>
<td>54</td>
<td>66.81</td>
<td>13.47</td>
<td></td>
</tr>
<tr>
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<td>64</td>
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<td>Total</td>
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<td></td>
<td>401</td>
<td>401</td>
<td>32.17</td>
<td></td>
</tr>
</tbody>
</table>

Chi-square (2) = 12.64**; Kendall’s tau-b = -.16***, T = -3.56; Gamma = -.28***, T = -3.56

* p = .05; ** p = .01; *** p = .001

MANCOVA RESULTS
Using the three-way split of the ATALS scores (high, median, and low), I applied an analysis of covariance (ANCOVA) to examine how the ATALS scores related to the item: “I presently have a high image of lawyers.” The following demographic variables had significant correlations with the item and, as a result, were used as controls: age, sex, and marital status. The results indicated that there was a significant difference among the three ATALS levels for this item (F [2, 412] = 12.17, p = 0.000, partial Eta squared = 0.06). In other words, the three groups of ATALS scores had differing images of lawyers. Helmert contrasts revealed that people with high ATALS scores had a significantly higher
image of lawyers than those with median and low scores (mean difference = 0.53, p = .01) and people with median scores did not have a significantly higher image of lawyers than those with low ATALS scores (mean difference = 0.15). As a result, Hypothesis 1 is supported.

A MANCOVA analysis was used to analyze the 10 different media for advertising lawyers’ services, as reported in Table 4. The demographic variables age, race, income, and education were found to be significantly correlated with the 10 media and were used as control variables. The overall MANCOVA was significant (F [20, 738] = 20.56, p = 0.000, Wilks’ Lambda = 17.36, partial Eta squared = 0.36), indicating that there are significant differences among the three groups for the 10 advertising media. In order to test Hypothesis 2, Helmert contrasts were conducted to determine whether group one (High ATALS scorers) was significantly different from the median and low ATALS scorers. The results indicate that group one was significantly higher than groups two and three on all media types except the telephone. In other words, all three groups had the same attitude toward telemarketing. In addition, group two (median ATALS scorers) was significantly higher than low ATALS scorers on all media types except the telephone and yellow pages. Based on these results, Hypothesis 2 is supported, and the ATALS measure is validated.

DISCUSSION
In this study, I used exploratory factor analysis (principal components) to identify one factor for the Attitudes Toward Advertising by Lawyers Scale (ATALS) using a randomly split sample. The 11-item ATALS had high reliability (Cronbach’s alpha = 0.94). I validated the results for the whole sample. Correlation analysis indicated that the ATALS was highly correlated with all 10 forms of advertising media. The ATALS scores were recoded into high, median, and low groups so that those with high ATALS scores had a more positive attitude toward lawyer advertising and were more likely to use the services of a lawyer who advertised than those who had median or low ATALS scores. Cross-tabulation analysis revealed that people with high ATALS scores tended to be younger, female, black, less educated, and single with lower income levels.

Furthermore, people with high ATALS scores tended to have a higher image of lawyers than those with median or low ATALS scores. This image is relative, however; the mean scores for image were neutral for high ATALS scorers and below neutral for the other two groups. Demographic controls for age, sex, and marital status were found to be uncorrelated with ATALS.
### Table 4. Results of Analysis of Covariance

<table>
<thead>
<tr>
<th>Variable Contrasts</th>
<th>1 High</th>
<th>2 Median</th>
<th>3 Low</th>
<th>F</th>
</tr>
</thead>
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<td>I presently have a high image of lawyers</td>
<td>3</td>
<td>2.68</td>
<td>2.29</td>
<td>12.17***</td>
</tr>
<tr>
<td>N</td>
<td>140</td>
<td>141</td>
<td>137</td>
<td>(2, 412)</td>
</tr>
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</table>

ANCOVA controlling for age, sex, and marital status, partial Eta squared = 0.06

#### Between-Subjects

<table>
<thead>
<tr>
<th></th>
<th>F</th>
</tr>
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<tbody>
<tr>
<td>1. Television</td>
<td>172.57***</td>
</tr>
<tr>
<td>2. Radio</td>
<td>115.97***</td>
</tr>
<tr>
<td>3. Newspaper</td>
<td>82.23***</td>
</tr>
<tr>
<td>4. Billboard</td>
<td>64.10***</td>
</tr>
<tr>
<td>5. Telephone</td>
<td>13.02***</td>
</tr>
<tr>
<td>6. Direct Mail</td>
<td>12.04***</td>
</tr>
<tr>
<td>7. Professional Magazine</td>
<td>12.04***</td>
</tr>
<tr>
<td>8. Popular Magazine</td>
<td>56.95***</td>
</tr>
<tr>
<td>9. Internet</td>
<td>15.73***</td>
</tr>
<tr>
<td>10. Yellow Pages</td>
<td>4.72**</td>
</tr>
<tr>
<td>N</td>
<td>129</td>
</tr>
</tbody>
</table>

MANCOVA controlling for age, race, income, and educational level:
F (20, 738) = 20.56***, Wilks’ Lambda = 17.36***, partial Eta squared = 0.36.

**p < 0.01; ***p < 0.001

Respondents with high ATALS scores were more likely to consider all forms of advertising (except one) to be appropriate than median and low ATALS scorers. The lone exception was telemarketing, which had the highest negative responses from all three groups. Media forms that tended to score well with this sample included newspaper, professional magazine, and yellow pages (which had the most positive responses).

The first contribution of this study is that we have revised and validated the Attitudes Toward Advertising by Lawyers Scale (ATALS). Researchers and managers can use this condensed scale to measure people’s attitudes toward lawyer advertising, lawyers in general, and the different advertising outlets. Second, advertisers can use this information to better match the media outlet with the potential target clients and customers in order to improve the efficiency and ef-
fectiveness of advertising by lawyers. I have identified the consumers who are most open to lawyer advertising and the various media forms that would appeal to them. Consumers generally prefer to have more information about lawyers and their services, and advertising can serve this need.

Third, this study revealed that people with a low image of lawyers tended to disapprove of lawyer advertising and the use of the different advertising media. This is an issue that lawyers and their advertisers will need to address in order to improve the image of lawyers and reach the consumers who have a less favorable impression of lawyers, because these consumers tend to be better educated and have higher income levels.

This study does have several limitations. First, the consumers in this study were in a state in the southeastern U.S. The return rate for the survey questionnaire was low (n = 439). The respondents in this study tended to be older, white, male, and highly educated with relatively high income compared to the general public. Consequently, they may be more likely to use computers and the Internet or be involved with electronic commerce. The participants may have a positive bias toward research using survey questionnaires. This study may also have common method variance since it is a cross-sectional survey of participants at one time. Generalizability to other types of consumers or consumers in other regions of the country may be limited.

ACKNOWLEDGEMENT

Appreciation is given to Dr. Thuhang T. Tran for her assistance in the preparation of this paper.
REFERENCES

Abercombie, P. 1998. Lawyers state their case through advertising: As the number of attorneys has grown, so have ads for attorneys, igniting a statewide debate. *Tampa Bay Business Journal*, 27 March.


Dunnigan, P. 1997. Faceoff over TV ads: The bar is considering further restrictions on attorney advertising, but some members are suing. *Florida Trends* 40 (4): 88–90.


Florida Bar News. 2001. Board reviews attorney advertising cases. 15 September.


Oreskovic, A. 2003. Television ads are becoming more popular among lawyers seeking new clients and ways to get the word out about cases and settlements. *The Recorder* 9 (2).

Pribek, J. 2002. Do you have a winning Yellow Pages ad? (Recommendations for lawyers.) *Wisconsin Law Journal*, 10 April.


Evolution of the Age Discrimination in Employment Charge: The Impact of *Smith v. City of Jackson* on Employer Liability

Denise S. Smith, J.D.
Missouri Western State University

**INTRODUCTION**

Historically, cases brought under Title VII of the Civil Rights Act of 1964\(^1\) for employment discrimination based on race, color, sex, religion, or national origin, have relied on one of two theories of discrimination: disparate treatment or disparate impact. In order to win a case based on the theory of disparate treatment, the complaining party must produce some evidence of intentional discrimination because of a protected characteristic, such as race or gender. If the complaining party alleges that he or she has been the victim of disparate impact discrimination, there is no requirement to show discriminatory intent.

In order to establish a case of disparate treatment, the plaintiff must either produce evidence of intentional discrimination by the employer, such as derogatory statements made about the plaintiff’s race or gender, or provide evidence that leads to an inference of intent, as in the landmark case of *McDonnell Douglas v. Green*. In that case, the United States Supreme Court outlined the elements necessary for a plaintiff to prove to establish a prima facie case of disparate treatment discrimination on the basis of race.\(^2\) In legal terms, establishing a prima facie case means the plaintiff must produce evidence for each point, or element, of the case. “This may be done by showing (i) that he belongs to a racial minority; (ii) that he applied and was qualified for a job for which the employer was seeking applicants; (iii) that, despite his qualifications, he was rejected; and iv) that, after his rejection, the position remained open and the employer continued to seek applicants from persons of complainant’s qualifications.”\(^3\) These ele-
ments of a prima facie case for disparate treatment have been adapted to most other employment discrimination cases, including those based on age.⁴

Unlike cases of disparate treatment, disparate impact discrimination requires no showing of intent on the part of the employer.⁵ Title VII of the Civil Rights Act of 1964 prohibits “practices, procedures, or tests neutral on their face, and even neutral in terms of intent”⁶ if their effect is harsher on members of a protected group than on those of the majority. It is clear from a reading of this language that even unintentionally discriminatory employment practices might violate the provisions of Title VII, which prohibits employment discrimination based on race, color, sex, religion, or national origin. An example of a “facially neutral” employment practice with disparate impact would be a minimum height requirement for job applicants, which would have a more adverse effect on members of some classes whose average height is shorter than that of white males.

Disparate treatment discrimination (treating an employee differently because of his or her membership in a protected class) is clearly prohibited by both Title VII and the Age Discrimination in Employment Act (ADEA)⁷. Identical language in both statutes states that it shall be unlawful “to fail or refuse to hire or to discharge any individual or otherwise discriminate against any individual with respect to his compensation, terms, conditions, or privileges of employment, because of such individual’s”⁸ race, color, religion, sex, national origin, or age. Until recently, however, it has been unclear whether plaintiffs in employment discrimination cases brought under the ADEA⁹ could also pursue a claim of disparate impact or whether that theory is “not cognizable”¹⁰ under it.

EXTENDING DISPARATE IMPACT TO AGE DISCRIMINATION CASES

The U.S. Supreme Court, in its March 30, 2005 decision Smith v. City of Jackson,¹¹ announced that “the ADEA does authorize recovery in ‘disparate impact’ cases comparable to Griggs”¹², the landmark case that set guidelines for pursuing recovery under this theory for race discrimination. Before Smith, circuits had been split on the question of whether disparate impact is even available under the terms of the Age Discrimination in Employment Act of 1967.¹³ Three circuits (the second, eighth and ninth) recognized disparate impact under ADEA, while five circuits (the first, fifth, seventh, tenth, and eleventh) rejected its use.¹⁴

The Smith case resulted from a challenge by older police officers to a compensation plan implemented by their employer, the City of Jackson, Mississippi. In an
effort to bring its police officers’ salaries in line with those of surrounding communities, Jackson had adopted a compensation plan that gave officers with fewer than five years of service proportionately greater raises than those employees with more than five years of service. Older officers who had more than five years of service sued under the ADEA, saying that the pay plan adversely affected them because of their age. In other words, the changes to the compensation plan were facially neutral but had a discriminatory effect on persons covered by the ADEA, because length of employment correlated with age.

The trial court ruled in favor of the City of Jackson. The Fifth Circuit Court of Appeals affirmed, concluding that disparate impact claims are "categorically unavailable" under the ADEA. However, "the majority and the dissent assumed that the facts alleged by petitioners would entitle them to relief" if disparate impact were available for ADEA claims. On appeal, the Supreme Court held that the ADEA does authorize disparate impact, but concluded that the petitioners had not proved the facts necessary to win a disparate impact claim.

The following sections describe a series of court decisions that laid the foundation for applying disparate impact to age discrimination in employment. If the reader would prefer to skip the discussion of the development of this theory and move on to a discussion of the importance of the Smith decision to current practice, please turn to the section entitled "Business Necessity vs. Reasonable Factor Other Than Age."

**DISPARATE TREATMENT BECAUSE OF AGE**

The Supreme Court relied on principles of disparate treatment in deciding the ADEA case of *Hazen Paper Co. v. Biggins*. In that case, the plaintiff alleged that his employer had violated the ADEA when he was terminated to prevent his pension from vesting. The court did not consider the termination to be disparate treatment based on age. It distinguished age from years of service, saying that "an employer can take account of one while ignoring the other, and thus it is incorrect to say that a decision based on years of service is necessarily ‘age based.’" Although terminating an employee to prevent pension vesting may be a violation of ERISA, if the vesting is based on an employee’s years of service rather than age it does not necessarily also violate the ADEA. If the employer uses pension status as a proxy for age, however, "in the sense that the employer may suppose a correlation between the two factors and act accordingly," there may be liability under both.
Following the *Hazen* decision, some appellate courts ruled that disparate impact theory would be categorically unavailable under the ADEA, even though the Supreme Court had declined to rule on that issue. In support of this view, these courts relied on the portion of the *Hazen* opinion that stated “[d]isparate treatment...captures the essence of what Congress sought to prohibit in the ADEA. It is the very essence of age discrimination for an older employee to be fired because the employer believes that productivity and competence decline with old age.” This, too, is the portion of *Hazen* cited by Justice O’Connor (Justices Kennedy and Thomas joining) in her dissent in *Smith*, when she stated that “[i]n the nearly four decades since the ADEA’s enactment...we have never read the statute to impose liability upon an employer without proof of discriminatory intent.”

**DISPARATE IMPACT IN RACE DISCRIMINATION CASES**

Decisions in several earlier employment discrimination decisions established the framework for the *Smith v. City of Jackson* decision of March, 2005. These cases include *McDonnell Douglas v. Green*, *Griggs v. Duke Power Co.*, *Albemarle Paper Co. v. Moody*, *Watson v. Fort Worth Bank & Trust*, *Wards Cove v. Atonio*, and *Hazen Paper Co. v. Biggins*. Each distinguished between disparate treatment and disparate impact discrimination, and outlined the plaintiffs’ burden of proof required under each theory in order to prevail in an employment discrimination case against an employer. Four of these cases are discussed below.

**Griggs v. Duke Power Co.**

The Supreme Court first addressed the issue of disparate or adverse impact in the landmark case of *Griggs v. Duke Power Co*. Griggs was a class action brought by a group of black employees of Duke Power Company in North Carolina, challenging “neutral” employment practices that had the effect of disqualifying a disproportionate number of black employees from transfer to better-paying positions within the company. Beginning July 2, 1965, the date the Civil Rights Act of 1964 became effective, the employer instituted a new requirement for transfer to its “inside” departments. In addition to the existing requirement of a high school diploma, transferees would also be required to earn a satisfactory score on two professionally prepared aptitude tests. These requirements had a disproportionately adverse effect on Negro employees compared to white employees. Furthermore, “neither the high school completion requirement nor the general intelligence test [was] shown to bear a demonstrable relationship to successful performance of the jobs for which it was used.”
In an 8-0 decision, the Court held that the employer’s requirement of a high school diploma and intelligence tests, in this case, violated Title VII, because there was evidence to show that the requirements of a high school diploma and minimum score on the intelligence tests were not job related. The opinion of the court, written by Chief Justice Burger, stated that “[u]nder the [Civil Rights] Act, practices, procedures, or tests neutral on their face, and even neutral in terms of intent, cannot be maintained if they operate to ‘freeze’ the status quo of prior discriminatory employment practices.” The court reasoned that the Civil Rights Act of 1964 was not exclusively directed at intentional acts of discrimination “but also practices that are fair in form, but discriminatory in operation. The touchstone is business necessity.” Although there were no allegations that the discriminatory practices were intended to discriminate against racial minorities, “[g]ood intent ... does not redeem employment procedures that operate as ‘built-in headwinds’ for minority groups and are unrelated to measuring job capability.” Moreover, Griggs interprets the act as placing “on the employer the burden of showing that any given requirement must have a manifest relationship to the employment in question.” A practice that has a disparate impact on a protected class under Title VII must be shown to test knowledge, skill, or ability that is job-related, or the employer may not use it.

Albemarle Paper Co. v. Moody

Four years after Griggs, the Supreme Court further defined the shifting burden of proof in another disparate impact case: Albemarle Paper Co. v. Moody. Citing its earlier decision in Griggs, the court stated that, “after a complaining party or class has made out a prima facie case of discrimination” the employer has the burden of proving that an employment practice has “a manifest relationship to the employment in question.” If the employer offers evidence of this, the burden shifts back to the complaining party “to show that other tests or selection devices, without a similar undesirable racial effect, would also serve the employer’s legitimate interest in ‘efficient and trustworthy workmanship.’” Such a showing would be evidence that the employer was using its tests merely as a ‘pretext’ for discrimination.” In other words, if there is a practice that serves the same purpose but has a less discriminatory impact, the employer must use that one instead.

Watson v. Ft. Worth Bank & Trust

Courts continued to apply the principles announced in Griggs to disparate impact cases involving objective employment practices such as employment tests. The 1988 case, Watson v. Ft. Worth Bank & Trust, expanded this analy-
sis to cases involving subjective practices, such as supervisor evaluations and interviews. According to Watson, the plaintiff alleging the disparate impact of a subjective practice would still need to “begin by identifying the specific employment practice that is challenged.” In Watson, however, the court seemed to pull back from its earlier ruling in Albemarle, concerning shifting burdens of proof in disparate impact cases. It stated that “the ultimate burden of proving that discrimination against a protected group has been caused by a specific employment practice remains with the plaintiff at all times.” This is in sharp contrast to the court’s prior stance that the employer must meet “the burden of proving that its tests are ‘job related.’”

Wards Cove Packing Co. v. Atonio

One year after Watson, the application of Griggs to disparate impact cases was further limited by Wards Cove Packing Co. v. Atonio. As one author noted, “The Court’s decision seemingly ignored seventeen years of precedent and dramatically lessened plaintiffs’ chances of prevailing in disparate impact cases.”

The decision in Wards Cove limited Griggs in three ways.

First, the court stated that a plaintiff must “focus on the impact of particular hiring practices on employment opportunities for minorities” and that the “plaintiff must demonstrate that it is the application of a specific or particular employment practice that has created the disparate impact under attack.” Griggs contains no such specificity requirement.

Second, after the plaintiff has shown that a practice has an adverse effect, Griggs shifted to the employer the “burden of showing that any given requirement must have a manifest relationship to the employment in question.” In Wards Cove, the court announced that the “burden of persuasion here must remain with the plaintiff, for it is he who must prove that it was ‘because of such individual’s race, color,’ etc., that he was denied a desired employment opportunity.” This was a dramatic departure from the established case law, and imposed on the employer only the duty to produce evidence, and not to prove necessity.

Third, Wards Cove diluted Griggs’ requirements that the employer practice be a business necessity, substituting in its place a requirement that “the challenged practice serves, in a significant way, the legitimate employment goals of the employer.” This new standard was an improper application of Watson and directed attention away from the job requirements of a particular position to focus instead on the impact on the business as a whole, a much broader perspective.
Civil Rights Act of 1991

The decision in *Wards Cove* had so significantly changed the interpretation of Title VII that Congress responded to the *Wards Cove* decision by enacting the Civil Rights Act of 1991. The act codified many of the guidelines for disparate treatment set forth in *Griggs* and other pre-*Wards* decisions. It addresses the burden of proof issue with the following provisions:

(1)(A) An unlawful employment practice based on disparate impact is established under this subchapter only if—

(i) a complaining party demonstrates that a respondent uses a particular employment practice that causes a disparate impact on the basis of race, color, religion, sex, or national origin and the respondent fails to demonstrate that the challenged practice is job related for the position in question and consistent with business necessity; or

(ii) the complaining party makes the demonstration described in subparagraph C with respect to an alternative employment practice and the respondent refuses to adopt such alternative employment practice.

The provisions of the Civil Rights Act of 1991 apply only to the protected classes specified by Title VII: race, color, sex, national origin, and religion. The new provisions of the act that statutorily changed the principles of *Wards Cove* do not, therefore, apply to discrimination based on age. Before the 1991 act, the language in the provisions of the ADEA and Title VII were very similar. Because Congress left the provisions of the Age Discrimination in Employment Act unchanged, however, the court in *Smith v. City of Jackson* reasoned that the guidelines for proving disparate treatment in an ADEA action are still those announced in *Wards Cove*.

Subject to the guidelines of *Wards Cove*, *Smith v. City of Jackson* interpreted the language of the ADEA to allow the use of disparate impact, finding that the text of the statute “focuses on the effects of the action on the employee rather than the motivation for the action of the employer.”

BUSINESS NECESSITY VS. REASONABLE FACTOR OTHER THAN AGE (RFOA)

Before the Supreme Court decision of *Smith v. Jackson*, it was unclear whether plaintiffs suing under the ADEA could prevail under a theory of disparate
impact. In *Smith*, the court announced that disparate impact is available under ADEA and explained how the application of this theory would differ in age discrimination cases.

Under Title VII, after the plaintiff has identified a particular practice that adversely affects members of his or her protected class of “race, color, religion, sex, or national origin”\(^6\), the burden shifts to the employer to show that the challenged practice screens applicants or employees for knowledge, skills, or abilities that are a “business necessity”\(^62\) or “job related.”\(^63\) If the employer meets this burden, the plaintiff has the opportunity to show that “other tests or selection devices, without a similarly undesirable...effect, would also serve the employer’s legitimate interest...”\(^64\) In a Title VII action “[e]ven if the defendant meets its burden of proving ‘business necessity,’ the plaintiff can still prevail by proving that the defendant’s justification was a mere pretext for discrimination.”\(^65\)

The statutory language with respect to disparate impact liability differs between Title VII and the ADEA. While Title VII uses the term “business necessity,”\(^66\) the ADEA provides that a differentiation shall not be unlawful if “based on reasonable factors other than age”\(^67\) commonly referred to as “RFOA.”

It is ... in cases involving disparate-impact claims that the RFOA provision plays its principal role by precluding liability if the adverse impact was attributable to a nonage factor that was ‘reasonable.’ Rather than support an argument that disparate impact is unavailable under the ADEA, the RFOA provision actually supports the contrary conclusion.\(^68\)

The language of the ADEA is more favorable to employers than that of Title VII. Proving that “reasonable factors other than age” determined the implementation of a policy is a less onerous burden for employers to show than proving a “business necessity.” The fact that Congress included the word “reasonable” indicates that employment decisions cannot be arbitrary or intentional, as in disparate treatment cases. However, the use of the word “reasonable” also recognizes that “age, unlike race or other classifications protected by Title VII, not uncommonly has relevance to an individual’s capacity to engage in certain types of employment.”\(^69\)

EEOC Regulations caution that a claim of RFOA will be scrutinized. “When an employment practice ... is claimed as a basis for different treatment of employees ... on the grounds that it is a ‘factor other than’ age, and such a practice has
an adverse impact on individuals within the protected age group, it can only be justified as a business necessity.” Justice Scalia’s concurring opinion in Smith refers to this regulation, stating that “[t]his is an absolutely classic case for deference to agency interpretation.” This view would indicate that even a “reasonable factor other than age” must also stand up to the “business necessity” test.

CLAIMING DISPARATE IMPACT BECAUSE OF AGE, POST-SMITH

The good news from *Smith v. City of Jackson* for plaintiffs who believe that an employer’s practices have an adverse effect on older workers is that they may pursue a claim under disparate impact theory. Still, employees are left with the more onerous burdens of proof announced in *Wards Cove*. In order to meet this test a plaintiff must meet three requirements.

First, the plaintiff must identify a specific test, requirement, or practice that has an adverse effect on older workers. “[I]t is not enough to simply allege that there is a disparate impact on workers, or point to a generalized policy that leads to such an impact.” Not only did the plaintiffs in *Smith* fail this specificity requirement; the court also found that the city had based its pay plan on “reasonable factors other than age” in that it had “the purpose of bringing salaries in line with that of surrounding police forces.”

Second, the burden of persuasion remains with the plaintiff at all times, rather than shifting to the defendant, as in *Griggs*, to prove the practice is a necessity. The plaintiff cannot point to another practice that has a less adverse effect. While Title VII plaintiffs may use the business necessity test, “which asks whether there are other ways for the employer to achieve its goals that do not result in a disparate impact on a protected class” ADEA plaintiffs must pass the “reasonableness inquiry [which] includes no such requirement.”

Third, the *Wards Cove* decision suggests that an employer may use an employment practice that adversely affects older employees, if the “practice serves, in any particular way, the legitimate employment goals of the employer.” This particular issue was not addressed in *Smith v. City of Jackson*. It would seem that, in ADEA cases, this last point would merge with a discussion of what is a “RFOA”, and that a “reasonable factor” could be that the practice is “good for the business.” For example, in *Smith*, the pay plan was adopted in an effort to offer police officers salaries that would be competitive with those of neighboring communities. In other words, it is “good for the business” to be able to hire and
retain qualified officers and not lose these same officers to a nearby municipality because of pay differential. The “RFOA” in this scenario also serves the “legitimate employment interests of the employer” as required under *Wards Cove*.

Until recently, it has been unclear whether plaintiffs in employment discrimination cases brought under the ADEA could pursue a claim of disparate impact or whether that theory is “not cognizable” under it.

**TRENDS IN ADEA CHARGES FILED**

According to data reported by the Equal Employment Opportunity Commission (EEOC), 17,837 ADEA charges were received in fiscal year (FY) 2004. Although this number is down from the FY 2003 number of 19,124, it represents a 7.2% increase from the 14,141 received in 1999 (Table 1). During the same five-year period, employment increased only 4.3%, from 133,378,000 in June 1999 to 139,158,000 in June 2004 (Table 2). Of more concern to employers than the number of charges filed is the significant increase in the amount of monetary awards paid to complaining employees. In FY 2004, a record $69.0 million was paid, compared to $38.6 million paid in 1999. This amounts to an almost 79% increase in monetary awards in five years, and do not include money awarded to employees as a result of litigation.

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<th>Table 1. ADEA Charges FY 1999–2004 from EEOC</th>
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<td>Receipts</td>
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<td>Merit Resolutions</td>
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<td>Monetary Benefits in Millions*</td>
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*This number does not include damages awarded as a result of litigation.

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<th>Table 2. Labor Force Statistics from Bureau of Labor Statistics</th>
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*Civilian labor force 16 years and older, numbers in thousands"
As baby boomers age and many continue working, these statistics should alert employers to the magnitude of the liability they might incur if their employment practices are found to be discriminatory to employees or job applicants 40 years of age or older.\textsuperscript{81}

**THE FUTURE OF ADEA DISPARATE IMPACT CLAIMS**

Disparate impact cases, by their nature, focus on large groups of employees and therefore target larger employers. Plaintiffs in disparate impact cases rely heavily on statistical data when offering proof of a policy’s adverse effects on their particular protected class\textsuperscript{81}. For this reason, *Smith* may give rise to a number of class-action lawsuits challenging employment practices of major corporations.

The message for employers is to carefully examine hiring, testing, promotion, and downsizing policies for potential adverse impact on their older workers. There are strategies employers should use in order to avoid ADEA disparate impact suits. They should collect data on the employees who are affected by these policies, to determine whether there is a disproportionately more negative impact on older workers than on the rest of the workforce. If there are potential issues with an employment practice, employers should investigate the reasons for the policy and investigate alternatives that may serve the same purpose.

Although this analysis does not seem to be required under current case law, it is a reasonable approach to avoid a potential claim by an older worker. If the policy in question is the only reasonable or economical alternative, an employer should be prepared to justify its reasonableness, in the event an older employee chooses to challenge it as having a disparate impact under the ADEA.

*Smith v. City of Jackson* has established the fact that disparate impact may be available under the Age Discrimination in Employment Act, and offers guidelines for future plaintiffs who may wish to pursue recovery under the theory. What remains a concern for business, however, is the manner in which “reasonable factor other than age” will be interpreted, since the court failed to address it in any detail. Advocates for older Americans are concerned because “when it comes to issues like salary and experience, factors that are often correlated with age can figure prominently in employer calculations.”\textsuperscript{82} If the ADEA is to fulfill its promise of equal treatment for older workers, courts will need to continue to carefully scrutinize any practice that has an adverse effect on this protected group to determine whether a “factor other than age” is truly reasonable.
FOOTNOTES

142 U.S.C.A. § 2000e et seq.
3"The complainant in a Title VII trial must carry the burden under the statute of establishing a prima facie case of racial discrimination." McDonnell Douglas v. Green, 411 U.S. at 802 (1973).
4Id., FN 13.
5Griggs, 421 U.S. at 432(1971).
6Id. at 430.
10Smith v. City of Jackson, 125 S.Ct. 1536, 1549 (2005). Dissent by O’Connor, J.
12Id. at 1540, referring to its decision in Griggs v. Duke Power Co., 401 U.S. 424 (1971).
1329 U.S.C.A. §621 et seq.
15Smith at 1540.
16Id.
18Id. at 611.
20“Pension status may be a proxy for age, not in the sense that the ADEA makes the two factors equivalent ... (using ‘proxy’ to mean statutory equivalence), but in the sense that the employer may suppose a correlation between the two factors and act accordingly,” Hazen Paper Co. v. Biggins, 507 U.S. at 613 (1993).
21Id.
22“[W]e have never decided whether a disparate impact theory of liability is available under the ADEA...and we need not do so here.” Id. at 610.
23Id.
27422 U.S. 405 (1975).
32Id. at 427.
33Id. at 431.
34“The evidence...shows that employees who have not completed high school or taken the tests have continued to perform satisfactorily and make progress in departments for which the high school and test criteria are now used.” Id. at 431-432.
35Id. at 430.
36Id.
37Id. at 432.
48Id. at 998.
51“While the relevant 1991 amendments expanded the coverage of Title VII, they did not amend the ADEA or speak to the subject of age discrimination. Hence, *Wards Cove*’s pre-1991 interpretation of Title VII’s identical language remains applicable to the ADEA.” *Smith v. City of Jackson*, 125 S.Ct. 1536, 1545 (2005).
54Id. at 431.
56Id.
58*Supra* note 56.
61Id. at 1555.
6229 C.F.R. § 1625.7 (d) (2002).
64Id. at 1545.
65Id. at 1546.
66Id.
67Id.
78 Smith v. City of Jackson, 125 S.Ct. 1536, 1549 (2005). Dissent by O’Connor, J.
81 AM. JUR. 2D Job Discrimination § 954 (2005).
Book Reviews
Blink: The Power of Thinking Without Thinking

by Malcolm Gladwell

Reviewed by Carla Edwards

The author of the 2005 bestseller Blink, Malcolm Gladwell, adopts a precarious position as he flies in the face of standard business decision-making processes and speculates that we can take in a trifling amount of information (thin-slicing) and make solid business decisions based on intuition (blink of an eye decisions) that occur on an unconscious level (behind the locked door). The cover of the book entices the reader with the idea that one can own the power of thinking without thinking. Contrary to academic textbooks that delineate lengthy problem-solving strategies, Gladwell claims that “decisions made quickly can be every bit as good as decisions made cautiously and deliberately” (p.14). He has many critics, however, and LeGault (who wrote Think in 2006) points out that thoughtful discourse, logic and formal problem solving are imperative to a progressing society. Because of LeGault’s criticism, it is tempting to stop reading this book after the first few pages, but to do so misses the depth of Gladwell’s position, which is essentially based on scientific research and complimented by a great deal of psychological theory.

Gladwell takes advantage of practiced psychological principles that have been supported in the literature for many years. For example, he discusses the 1980s Gottman studies related to determining communications patterns present in couples who will or will not stay married. Gottman studied verbal and nonverbal patterns of behavior across hundreds of subjects, and organized the data to develop meaningful predictive patterns useful in clinical decision making. Pattern recognition is a recognized neuropsychological task used to explore cognitive functioning and information processing and is a standard activity evaluated on tests of intelligence.
Gladwell also used the idea of decision making behind the closed door, which is a recognized process, called many names depending on theoretical orientation (e.g., automatic thought [cognitive psychologists], processing below the threshold [biological psychologists], habituation or generalization [behavioral psychologists]). His critics suggest that automatic processing is not reliable, because it is not systematic. This neglects the neurological and cognitive psychological literature that strongly supports the idea that learned experience and expertise can be processed systematically in a blink. Gladwell does recognize that the power of “blink” may have a dark side. When snap judgments are based on limited information, negative life experiences and stereotyping, they can damage individuals and organizations.

Gladwell does erroneously state that because the process of blink cannot be written down, it is not accessible to the individual mind. Analysts, psychotherapists, life coaches, and industrial organizational psychologists daily assist individuals in personal and business settings as they seek to understand and unravel the contents that lie behind the closed door. The depth of Gladwell’s definition of intuition and the process of developing blink leads to the position that education, positive and productive life experiences, and expert knowledge are actually prerequisites to blink of the eye decision making. In other words, developing the ability to blink is a lengthy and time-consuming process!

Dr. Edwards teaches MBA leadership classes at Northwest.
A Business Tale: A Story of Ethics, Choices, Success—and a Very Large Rabbit

Marianne M. Jennings

Reviewed by Chi Lo Lim

A Business Tale is a powerful yet entertaining book about ethics, a vital fabric of our business world. Jennings’ book is important in the aftermath of colossal scandals in corporate America that brought down a number of companies we have come to trust. At a time when ethics appears to be waning in light of the struggles and temptations to get ahead at all costs, Jennings’ book is refreshing and timely.

Instead of a mind-numbing book you might want to put down after the first two pages, Jennings skillfully integrates her message in a story that captures the interest of her readers. The basic message Jennings wants her readers to learn is proficiently portrayed in the lives of the characters she created in the book.

Jennings cleverly creates a mystical rabbit, Ari, to personify ethics that is visible to those who choose to see. In her book, she depicts the different aspects of the aspirations, dreams, successes, challenges, and struggles of everyone in the 21st century. She creates circumstances that are all too familiar and plausible in today’s “winner take all” society. Jennings realistically describes the decision making process that we face under different circumstances. She describes situations that are commonly found in today’s business settings. She uses her characters to illustrate our struggles at different stages of our lives.

Jennings completes her book with ten important guidelines. She applies each of these guidelines to a situation, the decision making process, the decision, and the consequence of the decision. Jennings’ guidelines are sensible and realistic to
everyone who chooses to heed. Her writing style is easy to read and the message she offers is too important to ignore.

*A Business Tale* is a book that all students should read to better prepare themselves for the challenges and temptations ahead of them. This is a book that everyone should read to refresh and strengthen their standpoint on ethics. It is a book for all who are willing to listen to their “Ari”, because playing by the rules is not always going to be an easy road. The fact of the matter is that doing the right thing may mean more work, more time, and occasional setbacks. Jennings reassures us that, in the long run, those who choose to work ethically will create opportunities and gain success—with peace of mind.

*Dr. Lim teaches management classes at Northwest.*
Joy at Work: A Revolutionary Approach to Fun on the Job

By Dennis W. Bakke

Reviewed by Ralph F. Mullin

The topic of shared values has been ubiquitous in the management and organizational literature for at least twenty-five years. Author after author has claimed that shared values are at the very causal center of an organization’s culture and, as such, are central to design and control of the organization and employee behavior throughout the organization—what Drucker calls “ultimate control”. Bakke’s Joy at Work is yet another on this subject, but one I found worth reading and thinking about. I have used it in an Organizational Behavior course.

Bakke and Roger Sant co-founded Applied Energy Services (AES), a worldwide energy production business. Influenced by Bob Waterman and the “Seven-S framework” centered on shared values, they centered AES on the values of integrity, fairness, social responsibility, and fun. There is nothing new in these value labels, but Bakke soon makes it clear that they are to be ends in themselves, not because they may be effective means to motivate employees, reduce labor costs, increase profit, or ensure trust from customers and investors. They should never be “a deodorant for self-interest,” but virtues in themselves. Bakke’s intensity comes from his deep Christian convictions. Academics sensitive to introducing religion should note that these are universal values common to all major religions and that AES—with only a small minority of Christian employees, most being Muslim—received responses characterized as “these were our values long before you [AES] came to our country.”

Integrity means not only truthfulness, selflessness, and consistency but wholeness and completeness—“how things fit together in some cohesive and appropriate way.” This meaning is consistent with: open systems theory (specifically
Barnard’s emphasis on cooperation, “submission to the organizational personality”, and integration), Deming’s “drive out fear” and cooperative “win/win” philosophy, and Drucker’s concept of “ultimate control”. Fairness means not treating people alike but differently, according to their uniqueness. Social Responsibility means that everyone at AES is responsible “to meet a need in society” while balancing and meeting the needs of all stakeholders. Fun refers to Bakke’s passion “to make the workplace fun and to make work exciting, rewarding, stimulating, and enjoyable.” Deming precedes Bakke in emphasizing making work joyful for employees, but Bakke specifies a way for every person in the organization to achieve fun: decision-making authority. Delegation of decision-making authority dates to Barnard and is further emphasized by Drucker, Deming and many others. Bakke delegates far deeper and broader, however, and not only for the processes for which persons (Bakke eschews the term “employee”) are directly responsible but also for key expert functions. He requires that everyone must ask for advice before making a decision and becoming responsible for results.

Bakke introduces other fascinating ideas on measurement (e.g., value congruence and intensity throughout the organization), leadership (humility), and nine main obstacles inhibiting the kind of comprehensive system change long advocated but rarely implemented in practice. For anyone interested in fundamental system change, this is an important read.

Dr. Mullin teaches management classes at Central Missouri State University.
Freakonomics: A Rogue Economist Explores the Hidden Side of Everything

by Steven D. Levitt and Stephen J. Dubner

Reviewed by Erin Pleggenkuhle-Miles

An unusual pairing of a University of Chicago economist, Steven D. Levitt, and a New York Times reporter, Stephen J. Dubner, results in a witty and entertaining book that proudly lacks a central theme. With a knack for asking unusual questions, Levitt solves them with a novelty lacked by most. Levitt’s underlying belief, present throughout the book, is “that the modern world, despite a surfeit of obfuscation, complication, and downright deceit, is not impenetrable, is not unknowable, and – if the right questions are asked – is even more intriguing than we think. All it takes in a new way of thinking.”

Levitt begins each of the six chapters with a seemingly random question:

- What Do Schoolteachers and Sumo Wrestlers Have in Common?
- How Is the Ku Klux Klan Like a Group of Real-Estate Agents?
- Why Do Drug Dealers Still Live with Their Moms?
- Where Have All the Criminals Gone?
- What Makes a Perfect Parent?
- Perfect Parenting, Part II; or: Would a Roshanda by Any Other Name Smell as Sweet?

He then proceeds to solve these unusual questions with the insight of someone who found a way to put two and two together to make five. Levitt’s findings are
supported by mountains of data readily available for statisticians who know how to apply standard methods, and presented in a manner that is easily understood.

Levitt and Dubner’s view of economics as a study of incentives gives way to a novel approach in their exploration of hidden truths. Unsatisfied with traditional explanations, and unlike many of his counterparts, Levitt questions what is currently fashionable, and uses a nontraditional approach to break through the clutter. From cheating teachers to the inner workings of a crack gang to parenting myths, Levitt demonstrates how the world really works.

Upon completion of this book, you come away wondering if your real-estate agent had your best interest at heart; what is happening to our education system; and is it true no question is a stupid one? Celebrating their political incorrectness, Levitt and Dubner nonetheless present their findings with an open-mindedness that’s hard to fault. As a purported economic and statistical novice, Levitt’s riddles and subsequent solutions are presented in a simplified manner that is engaging and enlightening for readers of all disciplines. Approaching 52 weeks on the New York Times best-seller list, Freakonomics is a book that has something to offer everyone, and is thus considered a “must read.”

Ms. Pleggenkuhle-Miles teaches marketing and management classes at Northwest.