The Perceptions of Experienced Construction Practitioners Regarding Ethical Transgressions in the Construction Industry

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This study discusses the results of a national survey, conducted in 1999, designed to assess the perceptions of experienced construction practitioners regarding the "frequency" and "seriousness" of ethical transgressions within the construction industry. A questionnaire was sent to 1,450 systematically selected members of the Associated General Contractors. A total of 321 useable questionnaires were returned, or 22 percent. These construction practitioners were asked to consider 15 issues that may typically arise for those working in the construction industry in the normal course of operations. Contractors were asked how often they thought each of the issues occurred and, when they did occur, how serious did they consider them to be. In addition, the relationship between construction practitioners' perceptions of ethical behavior and several demographic variables were analyzed. The results indicate that the four most frequently occurring ethical transgressions were Improper or Questionable Bidding Practices, Misrepresentation of Completed Work or Value of Work, Poor Quality Control or Quality of Work, and Technical Incompetence or Misrepresentation of Competence. The four most serious ethical transgressions were Alcohol or Drug Abuse; Improper or Questionable Bidding Practices; Failure to Protect Public Health, Safety, or Welfare; and Poor Quality Control or Quality of Work. Although several of the demographic variables analyzed were related to several of the individual ethical issues, only three - gender, region of country, and experience - were found to be significant when it came to the summated scores for perceived frequency and/or seriousness of ethical transgressions.

Key Words: Ethics, Construction Ethics, Ethical Transgressions, Bid Shopping

Introduction

Ethics are becoming the defining business issue of our time, affecting corporate profits and credibility, as well as personal security and the sustainability of a global economy. From price-fixing to bribery to toxic waste dumping, companies around the world are engaging in unethical practices and chalking them up to the cost of doing business (Dalla Costa, 1998).

The purpose of this study was to assess the perceptions held by experienced construction practitioners across various regions of the United States regarding the frequency and seriousness of ethical transgressions in the construction industry. The research study looked for relationships between "frequency" and "seriousness" of ethical transgressions and the following variables: gender, age, education, position in company, experience, contractor classification, primary market focus, size of company, union affiliation, region of country, and company code of ethics.

Dan Nabholz, the CEO of Nabholz Construction Corporation, suggests that there have always been and always will be unethical general contractors (Nabholz, 1995). He asserts that construction is a people business and attracts a full spectrum of personality types. However, he

sees ethical standards on a downward trend. He suggests that society and industry are changing and attributes some of the downturn in ethical conduct to the following:

--Today's constructors represent a different generation. The values they learned are different.
--The industry is seeing more and more absentee owners of construction operations.
--Construction managers appear to have more of a short-term perspective, one tied to bonus compensation. You're paid for bottom line performance, not your code of ethics.
--Purchasing decisions are more likely made in a high-rise office building, far removed from the job site, by people you never see or touch.

Nabholz (1995) asserts that construction managers should be responsible for knowing the ethics being practiced by the people who report to them. He argued that contractors should not accept a slow deterioration of ethics in construction as being inevitable. He stated that construction trade groups and industry publications should give ethics more attention and coverage, and that ethics should be an important part of the curriculum at construction schools across the country.

The media is filled with bad press regarding lapses in ethical behavior by those in the construction industry. With so much of the public perception coming from the media's coverage of the construction industry, it is not surprising that the American public is cynical--and the media finds no shortage of unethical behavior to publicize. For example:

--Five construction firms pleaded guilty to bid-rigging and kickbacks in the interiors market in New York City (Tulacz, 1998).
--Defiant engineer loses $62,000-a-year city engineering job for refusing to stamp plans for road repairs prepared by others in a way he believed would violate laws and engineering ethics (Korman, 1998).
--North Carolina Governor James Hunt is overhauling the Department of Transportation after months of scandal tarnished the panel of political appointees that oversees the agency's $2-billion construction fund (Buckner-Powers, 1998).

Public attention regarding bid rigging schemes, elaborate kick back operations, fly by night contractor rip-offs, and horror stories about price gouging all add to the concerns regarding ethics in construction. Add on top of these an increased public interest in issues of environmental impact and safety, as well as an increase in stringent regulations imposed by the government, and one can see why construction companies might be interested in focusing their attention on the ethical aspects of both their policies and their personnel.

Methodology

Subjects

The sample of experienced construction practitioners for this study was obtained from the national membership directory of the Associated General Contractors (AGC) trade association. For the purposes of this study, an experienced construction practitioner was an individual with at least five years of construction experience in either a management or field position. Although the AGC membership includes general contractors, subcontractors, venders, suppliers, and associates, only *general contractor* and *subcontractor* members were selected for this sample. Each participant was identified as coming from one of the following four regions of the United States:

1. Northeast Region - Maine, New Hampshire, Vermont, Massachusetts, Connecticut, Rhode Island, New York, Pennsylvania, New Jersey, Delaware, Maryland, and West Virginia.
2. Southern Region - Virginia, North Carolina, South Carolina, Georgia, Florida, Tennessee, Alabama, Mississippi, Texas, Oklahoma, Arkansas, and Louisiana.
3. Midwest Region - Michigan, Wisconsin, Illinois, Indiana, Ohio, Minnesota, Kentucky, Kansas, Nebraska, Missouri, Iowa, South Dakota, and North Dakota
4. Western Region - Arizona, New Mexico, Colorado, Wyoming, Montana, Utah, Idaho, Nevada, California, Oregon, and Washington.

Procedure

The membership list included the names, addresses, and phone numbers of approximately 7,260 company members from coast to coast. The officers for each company also were listed in the directory. Systematic sampling with a random start was used to generate the list of subjects. This sampling method allowed for all members on the list of 7,260 companies an equal chance of being selected.

Questionnaires were sent to 1,450 company members of the Associated General Contractors. A cover letter accompanied the questionnaires explaining the purpose of the study and assuring the recipients of anonymity. A self addressed, postage paid envelope was supplied with each questionnaire. The questionnaires were mailed to the president, vice-president, general manager, or estimating manager for each company. Recipients of the letters were asked to complete the questionnaire themselves or to pass it onto someone else in their companies qualified to respond.

Instrument

The instrument (See Appendix) used in this study was adapted from a questionnaire utilized in several studies done by the Murdough Center for Engineering Professionalism at Texas Tech University in Lubbock, Texas. Dr. W. Pennington Vann of Texas Tech University and Dr. P. Aarne Vesilind of Duke University developed the questionnaire. The original instrument consisted of 12 ethical issues. Three additional items were added to the instrument--Improper or Questionable Bidding / Estimating Practices, Misrepresentation of Completed Work or Value of Work, and Misrepresentation of Financial Records or Status. The questionnaire consisted of 15

ethical issues that may be encountered by experienced construction practitioners in a typical construction business environment.

The participants were asked to rate each issue according to how frequently they think it occurs in the industry, and how serious they think it is when it does occur. Participants were not asked whether they themselves engage in such activities. Participants were asked to base their responses on their experience as a construction practitioner. Responses to each of the 15 items were rated using a Likert scale. Values of 1 to 5 was assigned to the responses for "frequency," where 1 = *never*, 2 = *rarely*, 3 = *sometimes*, 4 = *often*, and 5 = *very frequently*. Values of 1 to 5 was assigned to the responses for "seriousness" with 1 being "*not serious at all"* and 5 being *"extremely serious."* The higher the response is to the item, the higher the frequency, or greater the seriousness.

Each questionnaire included a demographic information section in addition to the measurement scale. The demographic information collected on each participant included gender, age, education, position in company, number of years employed in the construction industry, contractor classification , primary market focus, company size, trade association affiliation, union affiliation, region of country, and whether the company had a written code of ethics or ethics policy in place.

Data Analysis

Data collected from the questionnaires were analyzed using the Statistical Package for Social Sciences (SPSS). The data were first analyzed (frequency distributions) to check the normal distribution assumption. The dependent variables were approximately normally distributed and, given the Likert scale is approximately interval, parametric tests were used.

Descriptive statistics were used to describe and summarize the data. Difference inferential statistics were used to analyze and compare groups or levels of the independent variable on their scores on the dependent variable. Differences between groups were tested at the .05 level of significance.

The statistic that was used to analyze the independent variables of *market focus, contractor classification*, *gender*, *union affiliation*, and *company code of ethics* the was the independent samples t-test. Levene's test for equality of variances was checked in each case. Where Levene's test was statistically significant, the *t* was adjusted to indicate that "equal variances were not assumed."

The statistic that was used for the independent variables of *age, education, position in company, experience, company size*, and *region of country* was a one-way ANOVA. This statistic was chosen because each variable represents one independent variable with 3 or more levels and the dependent variable is approximately interval. If the one-way ANOVA indicated significant differences between groups of the independent variable, then the post hoc Tukey HSD test was used as the follow up to determine between which groups a significant difference existed.

Results

Response Rates

A total of 1450 questionnaires were sent to individual members of the Associated General Contractors. Of the questionnaires sent out, a total of 321 useable questionnaires were returned, or 22 percent.

Contractor Profile

Of the 321 contractor respondents the ratio of male to female contractors was almost 10 to 1. The majority of the contractors were between the ages of 36 and 50. More than two thirds of all respondents self reported having a bachelor's degree or higher.

Of the 321 contractors surveyed, more than two thirds of the respondents were professionally positioned at the executive level. The number of years the participants were employed in the construction field ranged from 5 to 55, with the average being almost 26 years. Over 50 percent reported having between 21 and 40 years of experience. More than 50 percent of the participants were currently associated with companies with annual revenues between 5 and 50 million dollars.

Over 80 percent of the participants were classified as general contractors with the remaining being classified as specialty contractors. Almost all of the participants operated in the commercial market. Less than 5 percent of the respondents were involved in the residential market. Of the 321 respondents, over two thirds worked for companies who did not have a written "Company Code of Ethics" or "Ethics Policy."

The contractor respondents were primarily from non-union affiliated companies. The ratio of companies whose labor force is primarily non-union companies to companies whose labor force is primarily union affiliated was almost 2 to 1.

All four regions of the United States were represented in this study. The Northeast region produced the fewest number of responses, comprising only 12.5 percent of the sample, with the Southern region producing the greatest number of responses at 33 percent. The Midwest and Western regions were approximately equal in their participation.

Contractor Perceptions of Frequency and Seriousness of Ethical Transgressions

Each questionnaire listed 15 issues that may arise for those working in the construction industry. For the purposes of this study, each issue was viewed as an ethical transgression. Each participant was asked to rate each issue according to how frequently they thought the issue occurred in the industry and than, how serious they thought the issue was when it did occur. A mean of 1.0 for frequency represents the transgression never happening, and a mean of 5.0 represents the transgression happening very often. A mean of 1.0 for seriousness represents the transgression being perceived as not serious at all, and a mean of 5.0 represents the transgression being perceived as extremely serious. The mean scores of the 15 issues or ethical transgressions

are ranked from most frequently occurring to least frequently occurring, and most serious to the least serious in Table 1. Of the 15 issues surveyed, the four most frequently occurring ethical transgressions according to those contractors who responded are:

1. Improper or Questionable Bidding Practices
2. Misrepresentation of Completed Work or Value of Work
3. Poor Quality Control or Poor Quality of Work
4. Technical Incompetence or Misrepresentation of Competence.

Table 1

Contractor Perceptions of Frequency and Seriousness of Ethical Transgressions

	Frequency Issue	**Mean**	**Seriousness Issue**	**Mean**
1.	Improper or Questionable Bidding	3.3178	Alcohol and Drug Abuse	4.0870
2.	Misrepresentation of Completed Work or Value of Work	3.3031	Improper or Questionable Bidding	3.9437
3.	Poor Quality Control or Quality of Work	3.1063	Failure to Protect Public Health, Safety, or Welfare	3.8750
4.	Technical Incompetence or Misrepresentation of Competence	3.0063	Poor Quality Control or Quality of Work	3.8213
5.	Abuse of Company Resources	2.9969	Abuse of Client Resources	3.6677
6.	Alcohol and Drug Abuse	2.7262	Improper Relations with Clients, Contractors, etc.	3.6270
7.	Failure to Reconcile Employee or Subcontractor Concerns	2.7081	Conflicts of Interest, Improper Political/Community Involvement	3.5696
8.	Abuse of Client Resources	2.6563	Misrepresentation of Financial Status or Records	3.5688
9.	Conflicts of Interest, Improper Political/Community Involvement	2.6375	Technical Competence or Misrepresentation of Competence	3.5643
10.	Mishandling Sensitive Information	2.4769	Failure to Protect the Environment	3.5497
11.	Failure to Protect Public Health, Safety, or Welfare	2.4594	Failure to Reconcile Employee or Subcontractor Concerns	3.4563
12.	Discrimination, Favoritism, or Harassment	2.4206	Mishandling Sensitive Information	3.4517
13.	Misrepresentation of Financial Status or Records	2.4149	Discrimination, Favoritism, or Harassment	3.4222

Table 1 Continued

14.	Failure to Protect the Environment	2.3673	Abuse Company Resources	3.3836
15.	Improper Relations with Clients, Contractors, etc.	2.3187	Misrepresentation of Completed Work or Value of Work	3.0503
	Average Mean	**2.7277**		**3.6025**

Note: A mean of 1.0 for frequency represents the transgression never happening, and a mean of 5.0 represents the transgression happening very often. A mean of 1.0 for seriousness represents the transgression being perceived as not serious at all, and a mean of 5.0 represents the transgression being perceived as extremely serious.

Of the 15 issues surveyed, the four least frequently occurring ethical transgressions according to those contractors responding are:

1. Discrimination, Favoritism, or Harassment
2. Misrepresentation of Financial Status or Records
3. Failure to Protect the Environment
4. Improper Relations with Clients, Contractors, etc.

Of the 15 issues surveyed, the four most serious ethical transgressions according to those contractors who responded are:

1. Alcohol or Drug Abuse
2. Improper or Questionable Bidding Practices
3. Failure to Protect Public Health, Safety, or Welfare
4. Poor Quality Control or Poor Quality of Work

Of the 15 issues surveyed, the four least serious ethical transgressions according to those contractors responding are:

1. Mishandling Sensitive Information
2. Discrimination, Favoritism, or Harassment
3. Abuse of Company Resources
4. Misrepresentation of Completed Work or Value of Work

Pearson Correlations were performed on all 15 issues relative to frequency and seriousness. All issues indicated a significant positive correlation (at the 0.01 level, 2-tailed) between frequency of occurrence and seriousness of occurrence with the exception of one, Misrepresentation of Completed Work or Value of Work. These positive correlations simply indicate that contractors who view an issue as occurring relatively frequently also tend to view it as serious. However, this is not the case for Misrepresentation of Completed Work. Referencing Table 2, the issue of Misrepresentation of Completed Work or Value of Work is almost at opposite ends of the ranking spectrum of occurrence and seriousness. According to the contractors responding to the survey, "Misrepresentation of Completed Work or Value of Work" occurs second most often, and is perceived as the least serious offense.

Perception of Overall Ethical Behavior of the Construction Industry

The demographic portion of the questionnaire asked each participant to rate their perception of the overall ethical behavior of the construction industry (self-view) and also to rate how they thought the general public perceived the overall ethical behavior of the construction industry (public view). A Likert scale with values from 1 to 7 was used, where 1 equals highly "unethical" behavior and 7 equals highly "ethical" behavior. The higher the mean is, the higher the perceived ethical behavior of the industry. With 320 of the 321 contractor participants responding, the mean for the perceived self-view of ethical behavior of the industry was 4.78. The mean for the perceived general public view of the industry's ethical behavior was 3.31. There was a significant difference ($t = 19.45$, $df = 319$, $p < .001$) between the perceived self-view and the perceived public view of the overall ethical behavior of the construction industry.

Two of the 12 demographic factors, gender and experience, were related to the perceived view of the overall ethical behavior of the construction industry. Females scored the public view significantly higher ($t = -2.16$, $df = 317$, $p = .031$) than that of males. Participants with the least experience (under 10 years) scored the public view significantly higher ($F = 4.00$, $df = 3$, $p = .008$), than 2 of the other 3 experience levels (10-20 years and 21-40 years). None of the other comparisons of experience groups were significantly different.

Ten of the 11 demographic factors were tested for significant differences among groups. Primary market focus was not measured due to an insufficient response rate from residential contractors. Among contractor demographics, all factors measured had a significant relationship to contractor responses in terms of the 15 ethical transgression issues listed in the questionnaire. Table 2 summarizes the significant demographic variables.

Table 2

Summary of Significant Demographics

Variable	Responses to the Frequency of Issues	Responses to the Seriousness of Issues
Gender	Makes scored higher on question 4.	Females scored higher on questions 2, 3, 4, 5, 6, and 11.
Age	Younger contractors scored higher on questions 2 and 14.	Younger contractors scored higher on questions 5, 9, and 13.
Education	Contractors with some college scored lower on question 4. Contractors with the least education scored higher on question 13.	Contractors with the least education scored higher on questions 1, 4, and 7.
Position	Contractors at the executive level scored higher on question 4. Contractors at the management level scored higher on questions 10 and 13.	No differences.

Table 2 Continued

Experience	Contractors with over 40 years of experience scored lower on questions 1, 2, and 8. Contractors with less than 10 years of experience scored higher on question 14.	Contractors with over 40 years of experience scored lower on questions 2, 3, 5, 8, 9, and 13.
Contractor Class	Specialty contractors scored higher than general contractors on question 6.	General contractors scored higher than specialty contractors on question 5.
Market Focus	Not evaluated.	Not evaluated.
Company Size	Contractors who work for companies with revenues under $5 million scored lower on question 4.	No differences.
Union Affiliation	No differences.	Contractors who work for companies that are primarily union affiliated scored higher on questions 8 and 9.
Region of Country	No differences.	The Northeast scored higher on question 1. The West scored higher on questions 2, 13, and 14. The Northeast and the West scored higher on questions 8 and 9.
Code of Ethics	Contractors who worked for companies that did not have a written code of ethics scored higher on question 4.	No differences.

Note: The higher the score the more frequently the transgression occurs and the more serious it is when it does occur. Specific differences between groups are detailed in the text.

Summated frequency scores and summated seriousness scores were calculated by computing the average frequency and average seriousness scores for all 15 ethical transgression issues listed in the questionnaire. The internal consistency reliability of these scales was tested using Cronbach's coefficient alpha. The alpha for the frequency scale was .78 indicating that the summated scale is internally consistent in measuring the concept of frequency (Gliner & Morgan, 2000). The alpha for the seriousness scale was .93, indicating that the items in the scale are somewhat repetitious or that there are more items in the scale than are really needed for a reliable measure of the concept (Morgan & Griego, 1998). In either case, there is good internal consistency reliability for both scales. The average summated score for the frequency of issues was 2.73. The average summated score for the seriousness of issues was 3.60.

Although several individual ethical issues were related to several individual demographic factors, only three demographic factors were found to be significant when it came to the summated scales for perceived frequency of ethical transgressions and summated scales for perceived seriousness of ethical transgressions: experience, gender, and region of country. Contractor experience was found to be related to both frequency and seriousness of summated scores for the 15 ethical transgressions. Generally, contractors with the most experience perceived the occurrence of ethical transgressions to be least frequent and, when they did occur, they perceived

them to be less serious than contractors with less experience. Gender and Region of Country were only related to the seriousness of ethical transgressions on the summated scale. Females perceived ethical transgressions to be more serious than did males. Contractors from the West perceived ethical transgressions to be more serious than contractors from the South or the Midwest.

Discussion

The primary objective of this study was to ascertain the perceptions of construction practitioners regarding the extent to which ethical transgressions occur in the construction industry. The assumption was that those persons actually working in the industry know better than anyone else does when it comes to issues like poor quality, improper bidding practices, discrimination, abuse of client resources, and alcohol or drug abuse, just to name a few. Participants were asked to base their responses on their personal experience working in the industry, and they were assured of anonymity. According to the construction practitioners who responded to the survey, the frequency of the kinds of ethical transgressions presented in the questionnaire is rare. As a matter of fact, the participants of this study view the behavior of the construction industry to be quite ethical. However, they do perceive that the general public does not hold their industry in the same positive light.

Another primary objective of the study was to ascertain the perceived seriousness of ethical transgressions when they do occur in the industry. Clearly, those construction practitioners who responded to the survey think ethical transgressions are a serious matter. Some of the ethical issues, like alcohol or drug abuse, improper bidding practices, and failure to protect public health, safety, or welfare, are close to being perceived as extremely serious. There have been serious efforts made to address some of these issues. For example, drug testing is mandatory for union workers but not for non-union workers, although many companies now require drug testing at least at the time of hiring. Bid listing legislation has been adopted in more than two dozen states, and most trade associations have condemned the practice of bid shopping; however, the Federal Trade Commission warns trade associations to step lightly in this area to avoid anti-trust violations themselves.

Not all ethical issues are considered serious even when they occur more frequently (for example, Misrepresentation of Completed Work or Value of Work). It is questionable whether some items listed in the questionnaire represent ethical transgressions at all, as far as the industry is concerned.

The results of this study indicate that female construction practitioners perceive ethical transgressions to be more serious than do male construction practitioners. In a previous study conducted by the researcher, Jackson, 1998) a similar result was found when comparing the ethical perceptions of female construction students and male construction students. However, at that time, the researcher concluded that it seemed unlikely that this would have much impact on the industry as a whole given the small number of women who were actually employed in the industry. However, there are current reports that suggest a different outlook. The National Foundation for Women Business Owners reported in 1997 that between 1987 and 1996 construction was the *fastest-growth* area for women business owners (Touby, 1997).

Additionally, the number of women starting construction businesses was significant. In 1997, over 320,000 female contractors employed more than a million people and took in $130.4 billion in revenue, representing an increase of 170 percent in nine years (Touby, 1997).

Furthermore, the nature of the business itself is changing. Touby (1997) may have said it best. "More and more construction companies are being run by MBAs than craftsmen. Bidding on and completing a project requires a whole new constellation of professional skills. What this means is that the straw boss mentality is giving way to a new, more sophisticated business style, and female contractors are perfectly poised to prosper (p. 40)." And, given the evidence suggesting that women may be more sensitive to ethical issues (Cole, 1993, Dawson, 1997, and Jackson, 1998), one might expect to see real changes in the ethical culture of the industry.

On the other hand, one must not overlook several theories also presented by Dawson (1997). He suggested that the opposite could occur--while women may enter business careers with values different from men, they will respond similarly to the same training and occupational environment and become more like men in their actions and perceptions.

There appears to be an association between the perceived "frequency" and "seriousness" of ethical transgressions and "experience" of the construction practitioners. Analysis of the summated scores revealed that contractors with over 40 years of experience perceive ethical transgressions overall to occur less frequently than do less experienced constructors. Furthermore, contractors with over 40 years of experience perceive ethical transgressions to be less serious overall than do contractors with less experience. There was very little research found by the investigator to corroborate these findings and the researcher questions the validity of them. Construction practitioners with over 40 years of experience are likely to be over age 60 and may not be as close to the day to day construction operations as they once were. Thirty-five participants were listed as having over 40 years of experience, and 37 participants were over age 65. Therefore, they may be out of touch and unable to access the real ethical behavior of the industry.

There appears to be no differences across regions of the United States in regard to the frequency of ethical transgressions. This came as a surprise to the researcher. Most contractors that were interviewed prior to the start of this study expected regional differences. It was thought that the frequency of transgressions would be higher in the Northeast by most of the contractors interviewed. No differences were found between respondents from union affiliated firms and respondents from non-union affiliated firms when it came to frequency of transgressions either. And, although the lowest number of respondents to the study came from the Northeast, the number was still sufficient to make reliable comparisons.

However, there was an association between the perceived "seriousness" of ethical transgressions and "region of country." The Western Region of the United States perceived ethical transgressions overall to be significantly more serious than did construction practitioners from the Midwest or Southern Regions. The investigator found no research to corroborate this finding.

Conclusion

This study was a look into a very important topic seldom addressed in construction. The possibility for further research in this area is immense. Ethics has never been a clear-cut issue in the business world, and is definitely not a simple issue in the complex construction industry. There are no easy answers. The true ethical culture that exists within the industry is yet to be determined. However, with continued research in the area of ethics in construction, a more accurate picture may be drawn. Once we are actually aware of that "ethical culture," we may have the opportunity to influence it, if we so choose. Hopefully, this study brings us one step closer to that awareness.

The researcher believes that the vast majority of contractors conduct their businesses in an ethical fashion. However, it is disturbing that the behavior of those who do not, goes undeterred and therefore is interpreted as being acceptable. Unfortunately, such questionable behavior tarnishes the reputation of those who conduct themselves ethically, and jeopardizes the industry as a whole.

References

Buckner-Powers, M., (1998). North Carolina controversy raises board patronage issue, ENR: Engineering News Record, 17.

Cole, B.C. (1993). Perceptions of college business students and of experienced business practitioners regarding the ethics of business people. Unpublished doctoral dissertation, Memphis State University, Tennessee.

Dalla Costa, J. (1998). The Ethical Imperative: Why Moral Leadership is Good Business. Reading, Massachusetts: Addison-Wesley

Dawson, L.M., (1997). Ethical differences between men and women in the sales profession. Journal of Business Ethics, 16, 1143-1152.

Gliner, J.A., & Morgan, G.A. (2000). Research methods in applied settings: An integrated approach to design and analysis. Mahwah, New Jersey, Lawrence Erlbaum Associates.

Jackson, B.J., (1998). Perceptions of college construction students regarding the ethics of the construction industry. Unpublished master's thesis, Colorado State University, Fort Collins, Colorado.

Korman, R., (1998). Defiant engineer draws praise. ENR: Engineering News Record, 10.

Morgan, G.A. & Griego, O.V., (1998). Easy use and interpretation of SPSS for windows: Answering research questions with statistics. Mahwah, New Jersey, Lawrence Erlbaum Associates.

Nabholz, D.F., (1995). Your ethics, my money. The Contractors Management Journal, 15-22.

Touby, L. (1997, January). Contracting. Working Woman, 39-41, 70-72.

Tulacz, G.J., (1998), NYC interiors firms plead guilty. ENR, 10-11.

Appendix

Opinion Survey on Ethics in Construction

Below are 15 issues that may arise for those working in the construction industry. Listed under each category are examples that might be representative of each issue.

Remember, your responses are not a reflection of your personal behavior, but rather are to be based on your personal experience working in the construction industry.

Please rate each issue according to:

1. **How frequently you think it occurs in the industry.**
   1 = never **2** = rarely **3** = sometimes **4** = often **5** = very often

2. **How serious you think it is when it does occur.**
   1 (not serious at all) **2** **3** **4** **5** (extremely serious)

Circle your responses: Higher numbers indicate higher frequency or greater seriousness.

Issue 1- Technical Incompetence or Misrepresentation of Competence
(Examples of this issue might be- Operating outside one's area of experience or expertise, operating without a license, misleading advertising or claims for performance or products, misleading schedules, misleading information on resumes or pre-qualification statements, etc.)

Frequency 1 2 3 4 5 **Seriousness 1 2 3 4 5**

Issue 2- Poor Quality Control or Poor Quality of Work
(Examples of this issue might be- Cutting corners in the face of budget or time pressures, not satisfying specifications, hedging on standards, not performing in a workmanlike manner, etc.)

Frequency 1 2 3 4 5 **Seriousness 1 2 3 4 5**

Issue 3- Improper or Questionable Bidding / Estimating Practices
(Examples of this issue might be- Bid-shopping, bid peddling, bid rigging, etc.)

Frequency 1 2 3 4 5 **Seriousness 1 2 3 4 5**

Issue 4- Misrepresentation of Completed Work or Value of Work
(Examples of this issue might be- Inflating completed work percentages, adjusting schedules of value, front-end loading schedules of value, etc.)

Frequency 1 2 3 4 5 **Seriousness 1 2 3 4 5**

Issue 5- Conflicts of Interest, Improper Political or Community Involvement
(Examples of this issue might be- Political contributions or activity for personal or company gain, undue influence, fraud, conflicts of commitment, financial, personal, political, or other interest in people or organizations that one performs construction services for, etc.)

Frequency 1 2 3 4 5 **Seriousness 1 2 3 4 5**

Issue 6- Discrimination, Favoritism, or Harassment
(Examples of this issue might be- Unfair treatment on the basis of race, sex, etc, in business, or relative to evaluations, promotions, or recommendations, supervisory harassment of subordinates, sexual harassment, etc.)

Frequency 1 2 3 4 5 Seriousness 1 2 3 4 5

Issue 7- Abuse of Company Resources
(Examples of this issue might be- Abuse of travel allowance, fudging on time cards, personal use of company supplies, equipment, telephone, or facilities, using company employees for personal projects or benefit, etc.)

Frequency 1 2 3 4 5 Seriousness 1 2 3 4 5

Issue 8- Abuse of Client Resources
(Examples of this issue might be- Over billing for time and material, excessive change orders and charges, inflating hours, wasting public funds, etc)

Frequency 1 2 3 4 5 Seriousness 1 2 3 4 5

Issue 9- Failure to Protect Public Health, Safety or Welfare
(Examples of this issue might be- Poor safety or risk analysis or assessment, neglect in regard to worker safety, hazardous materials, natural hazards, etc.)

Frequency 1 2 3 4 5 Seriousness 1 2 3 4 5

Issue 10- Improper Relations with Clients, Contractors, etc.
(Examples of this issue might be- Excessive gifts, entertainment, or gratuities, undue influence, inside information, failure to maintain independent judgment; kickbacks, bribery or blackmail, fraud, etc.)

Frequency 1 2 3 4 5 Seriousness 1 2 3 4 5

Issue 11- Mishandling Sensitive Information
(Examples of this issue might be- Revealing or obtaining proprietary or confidential information, revealing or discussing confidential bids and prices, misrepresentation of data, lack of informed consent, violation of privacy, gossip, insider trading, etc.)

Frequency 1 2 3 4 5 Seriousness 1 2 3 4 5

Issue 12- Failure to Reconcile Employee or Subcontractor Concerns
(Examples of this issue might be- Falsely blaming others for poor performance or schedule delays, company disloyalty, technical dissent, company communication, reporting, and grievance procedures, public exposure of misconduct or technical conflict, improper punishment or retaliation against an employee, etc.)

Frequency 1 2 3 4 5 Seriousness 1 2 3 4 5

Issue 13- Alcohol or Drug Abuse
(Examples of this issue might be- Use of alcohol or drugs while on the job, excessive use of alcohol or drugs while off the job, effects of substance abuse on performance and decision-making)

Frequency 1 2 3 4 5 Seriousness 1 2 3 4 5

Issue 14- Failure to Protect the Environment
(Examples of this issue might be- Conduct contributing to pollution, deterioration or destruction of air, water, or nature, resource depletion, poor resource allocation, etc.)

Frequency 1 2 3 4 5 Seriousness 1 2 3 4 5

Issue 15- Misrepresentation of Financial Status or Records

(Examples of this issue might be- Misinforming or misleading the IRS, lending institutions, banks, clients, bonding agencies, etc.)

Frequency 1 2 3 4 5 **Seriousness 1 2 3 4 5**

COMMENTS

This survey is an adaptation of the Murdough Center for Engineering Ethics Survey, Texas Tech University, (Vann & Vesilind, 1991)

Ethics Survey - Demographic Information

1. Gender: _____ Male _____ Female

2. Age: _____ Under 20 _____ 20-35 _____ 36-50 _____ 51-65 _____ Over 65

3. Education: _____ High School or Less _____ Some College/Business School/Vocational Training

   _____ Bachelor's Degree _____ Master's or Doctorate Degree

4. Position in Company (Please select the one that best describes your position or type of work)

   _____ Executive _____ Management _____ Design/Engineering

   _____ Estimating _____ Supervision _____ Other:_____

5. Number of years employed in the construction industry: _____ (round up or down to nearest whole number)

6. Contractor Classification: _____ General Contractor _____ Subcontractor _____ Associate (Supplier, etc.)

7. Primary Market Focus: _____ Residential _____ Commercial (Includes Industrial & Heavy Highway)
   (Please select only one)

8. Company Size: _____ Under $1 million _____ $5 to $50 million _____ Over #250 million

   _____ $1 - $5 million _____ $50 to $250 million

9. Trade Association Affiliation: (Please circle all that apply)

   AGC ABC NAHB NAWIC ASA WCOE Other: _____

10. Union Affiliation: _____ Primarily Union _____ Primarily Non-Union

11. Region of Country:

    _____ Northeast (Maine, New Hampshire, Vermont, Massachusetts, Connecticut, Rhode Island, New York, Pennsylvania, New Jersey, Delaware, Maryland, West Virginia, Minnesota)

    _____ Southern (Virginia, North Carolina, South Carolina, Georgia, Florida, Tennessee, Alabama, Mississippi, Texas, Oklahoma, Arkansas, Louisiana)

    _____ Midwest (Michigan, Wisconsin, Illinois, Indiana, Ohio, Kentucky, Kansas, Nebraska, Iowa, Missouri, South Dakota, North Dakota)

    _____ Western (Arizona, New Mexico, Colorado, Wyoming, Montana, Utah, Idaho, Nevada, California, Oregon, Washington)

12. Does Your Company Currently Have a Written Code of Ethics or Ethics Policy? _____ Yes _____ No

13. On a scale of 1 to 7, how do <u>you</u> perceive the overall ethical behavior of the construction industry?

    Highly Unethical 1 2 3 4 5 6 7 Highly Ethical

14. On a scale of 1 to 7, how do you think the <u>general public</u> perceives the overall ethical behavior of the construction industry?

    Highly Unethical 1 2 3 4 5 6 7 Highly Ethical