

ANALYSIS # 1

CONSTRUCTION ETHICS

PROBLEM

Ethics in the construction industry is an issue that is never clear cut. What companies view as ethical differs greatly and can have a significant impact on their competitive advantage. As a result, the industry suffers from a poor image and an uneven playing field. Formulating an interactive training tool to develop and implement ethics into a company would improve the industry's image, level the competitive playing field, and increase social responsibility among its employees.

GOAL

The goal of the proposed research is to identify and develop an ethics training program that would become part of a company's employee training program and also be able to be used on students entering the industry. With the acquired knowledge from surveying industry members and students, an informational training program would be developed for companies and students to use. This will provide the industry with a solution to increase the ethical performance of its respective companies and personnel entering the industry.

METHODOLOGY

1. Complete a literature review on construction ethics focusing on prevailing ideals and codes
2. Develop and distribute a survey to the respective companies employees and students that will identify the different companies corporate ethical strengths and weaknesses as well as the success of their implementation
3. Use the results from the survey to decide what the best ethical implementation tool would be appropriate
4. Define the most common ethical transgressions
5. Develop the program and conduct an exit survey to analyze results

6. Research construction ethics awards and identify defining criteria
7. Relate the program to the Warrenton Aquatic Facility by communicating with project staff
8. Create final depth report from results

TOOLS

1. ASCE Code of Ethics
2. CMAA Code of Ethics
3. Ethical Need Survey
4. Exit Survey
5. National Capital Business Ethics Association
6. Penn State AE Faculty
7. Strategic Management Materials
8. Microsoft Excel
9. Microsoft PowerPoint

EXPECTATIONS

The expected outcome of this research is to produce a training program that will help ingrain a standard of ethical values into industry members and students. This tool will be used to improve the industry's image, level the competitive playing field, and increase social responsibility among industry members and students alike.

INITIAL RESEARCH

After contacting different construction companies who offer training programs to their employees, I found that most companies do not offer a course on ethics. And as I have stated before, the industry is marred by unethical behavior. Therefore, a training program to develop better ethical practices by incoming and current industry members will help clean up this preposterous problem. The following is the research that I have conducted that will: illustrate the need and want for the training guide, define the industry identified ethical problems that will aid in developing the training guide, and quantify and draw conclusions from the training program.

ETHICAL NEED SURVEY

A survey was compiled and distributed to construction management firms and students to determine how important industry members think ethics are. The survey consists of eleven yes/no questions and can be found in Appendix C. The percentages were determined from the 45 surveys that were returned. From the results, the following data was formatted to create the subsequent Table 1.1 (charts of the results can be found in Appendix D):

Question Description	Yes (%)	No (%)
Consider Ethics Vital to Job	95	5
Ethical Transgressions more Likely in Construction Industry	45	55
Consider Ethics a Competitive Advantage	74	26
Ethical Transgressions a Necessity to Maintain Competitive Advantage	32	68
Bottom Line more Important than Ethical Practices	21	79
Promotion based on Schedule and Budget Performance over Ethics	42	58
Rewarded for Ethical Job Performance	42	58
Behave More Ethically if Rewarded	87	13
Company Conducts Employee Training	89	11
Company Offers Ethics Training	16	84
Would like to have Course on Construction Ethics	73	27

TABLE 1.1

ETHICAL NEED SURVEY ANALYSIS

INDUSTRY COMPARISON

The results from the survey confirmed my initial expectations. The answer to the first question shows that nearly all members of the industry consider ethics to be a vital part of their job. This allows the conclusion to be drawn that ethics should be addressed in the industry whether by the individual company, university, on their own accord, or by the industry as a whole.

The next question shows nearly a split when considering whether or not ethical transgressions are more frequent and likely to happen in the construction industry when compared to business as a whole. The business industry already has programs that teach ethics to its employees. The advantages of this are that by providing training on ethics, the companies shed liability with regards to lawsuits based on employee ethical transgressions such as sexual harassment, discrimination, financial misrepresentation, etc. Because the numbers are so similar, the construction industry should also take steps to develop and implement an ethics training program. This could also help the industry with ethical lawsuits but more importantly would help clean up the industry's reputation.

COMPETITIVE ADVANTAGE

The next section of the survey correlates ethics to competitive advantage within the industry. As you can see, 74% of those surveyed considered ethics to be a competitive advantage over their company's competitors. This statistic may be skewed because the survey did not identify whether or not it was good or bad ethical practices to gain competitive advantage.

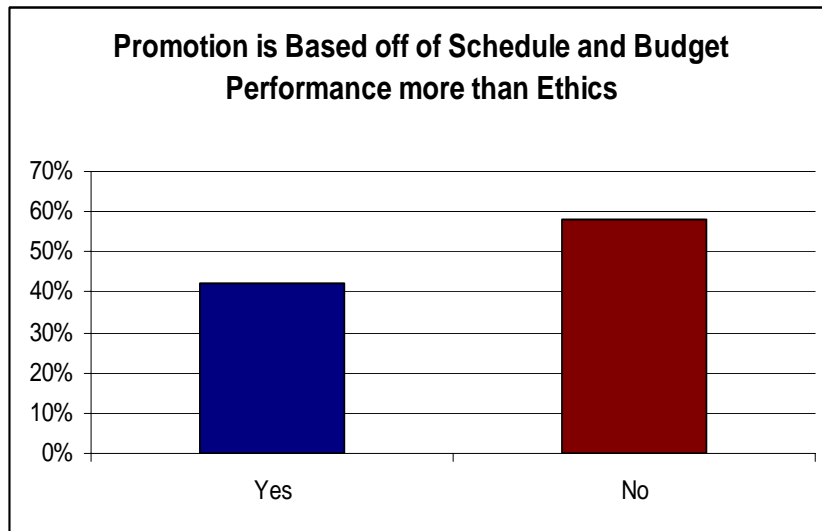
However, the next question of the survey did identify that only 32% of the industry members said that ethical transgressions were necessary to maintain a competitive advantage in their respective markets. This statistic shows that people knowingly behave unethical, which further demands that ethics be taught and developed within the industry. As I mentioned before this would level the playing field and the

competitive advantages would solely be gained by owners only wanting to conduct business with ethical companies.

ETHICS AND CAREER ADVANCEMENT

Ethics within a company are strongly influenced by how the company conducts business. The first question that addresses this in the survey asks whether or not the bottom line is more important in a company than ethical behavior. Only 21% of those surveyed said that the bottom line was more important than behaving ethically. This statistic is encouraging, but should still be lower.

To incorporate this into individual careers and company practices, the responses from the survey show that 42% of industry members feel that schedule and budget performance will help them get promoted within the company rather than behaving ethically. The survey does not ask whether or not to achieve a better budget and schedule if the individuals were behaving unethical.



However, coupled with data from the ethical transgressions survey found in table 1.2, I am assuming that to achieve a better schedule and budget, unethical practices such as front-end loading and bid shopping are two of the more common methods to increase project performance. Therefore it can be concluded that 42% of companies are rewarding unethical practices which is unacceptable.

An interesting statistic that contradicts this is that 42% of construction employees report that their company does reward them for behaving ethically. What was not indicated however was what type of reward was received by the employees. Informal

interviews with industry members however revealed examples of these rewards being in the form of monetary bonuses and awards.

The last portion of the survey that deals with company practices shows that 87% of industry members would behave more ethically if they were to be rewarded. Most companies conduct performance reviews of their employees and therefore if they included a review of ethical practices for their employees, they could reward ethical practices through standard employee bonuses. So in conclusion, this is a corporate strategy that should be considered by companies to increase ethical practice.

COMPANY TRAINING AND ETHICS

The last and most important portion of this survey deals with company training and ethics. It was found that 89% of companies offered training courses to their

employees. Of those 89% however, only 16% of the companies offered any type of training on ethics. This alone could be responsible for the bad ethical practices of employees and ultimately the industry as a whole. However, 73% of those surveyed said that they would



like their company or university to offer a course on professional ethics as it relates to the construction industry. This shows that not only does the industry need a training program on ethics, but it also *wants* it.

ETHICAL NEED SURVEY CONCLUSIONS

In conclusion from the Ethical Need Survey, I have found that industry members find ethics to be a vital portion of their job and they consider ethics to be a competitive advantage. Ethics can strongly influence individual's careers and how companies operate.

Incentives can be given and thus strategies developed by companies to create better ethical conduct within the industry. Finally, because companies generally use training programs to develop employees and instill corporate policies from within, a corporate training program that teaches ethics is a great method to develop ethics in the industry. Furthermore, my survey results show that the industry not only needs ethical training, but again, they more importantly *want* ethical training.

ETHICAL TRAINING GUIDE DEVELOPMENT

RESEARCH

The first step to develop the construction ethics training program is to identify the ethical transgressions that plague the industry. To do this, I have researched many different publishings on construction ethics to determine which are the prevailing ethical issues. However, while conducting my research, I found a study conducted by Barbara Jackson of the California Polytechnic State University that identified and defined the top transgressions in the industry. To do this, Barbara used a survey among random project managers to document the industry identified fifteen most frequent transgressions as well as ranking them according to the seriousness of the transgression. Therefore, for the purposes of the research and development of the ethics training program, these top fifteen transgressions will be the focus of the issues that need to be addressed in the program. The results of the survey can be seen in Table 1.2 which follows:

CONTRACTOR PERCEPTIONS OF FREQUENCY AND SERIOUSNESS OF ETHICAL TRANSGRESSIONS

Number	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.	Conflict of Interest, Improper Political/Community Involvement	2.6375	Technical Incompetence 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
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

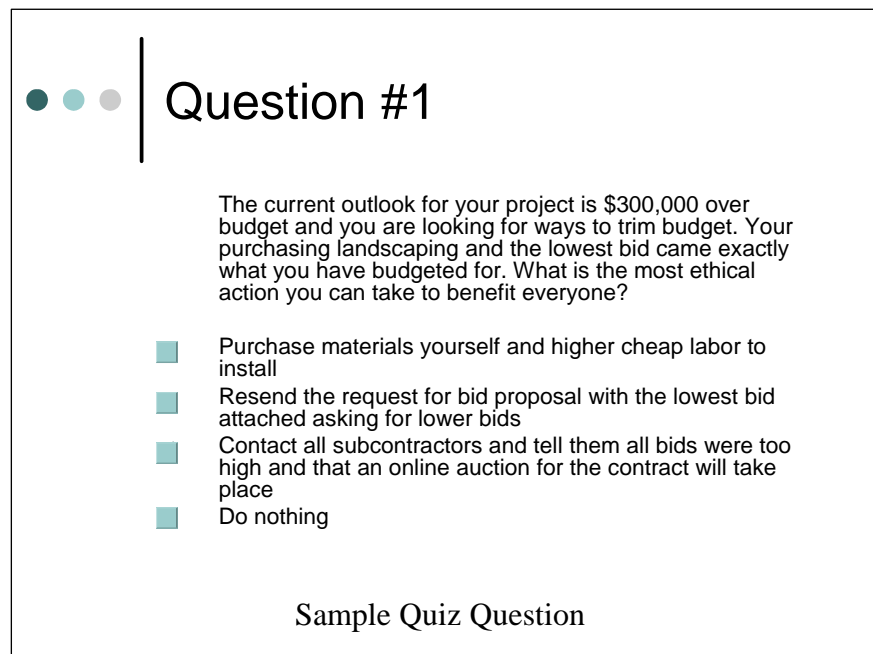
TABLE 1.2

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.

TRAINING GUIDE SETUP

The instrument used to develop the construction ethics training guide was Microsoft PowerPoint. The fifteen transgressions, as mentioned earlier, were used to create the topics for training. Due to the potential length of the program, the fifteen transgressions were divided into three modules based on similarities. Each transgression topic was identified, key forms of violations noted and explained, and finally solutions proposed for each transgression.

At the end of each module, a five question quiz was developed from the learning portion of the module. The quiz questions defined situations that commonly have unethical practices associated with them. If any of the five questions are missed, the program takes the user back to the beginning of the module to review the material again. Upon successful completion of the quiz, the user will advance to the next module until all three modules are completed successfully.



The slide titled "Question #1" contains a scenario and four multiple-choice options. The scenario is: "The current outlook for your project is \$300,000 over budget and you are looking for ways to trim budget. Your purchasing landscaping and the lowest bid came exactly what you have budgeted for. What is the most ethical action you can take to benefit everyone?" The options are: "Purchase materials yourself and higher cheap labor to install", "Resend the request for bid proposal with the lowest bid attached asking for lower bids", "Contact all subcontractors and tell them all bids were too high and that an online auction for the contract will take place", and "Do nothing".

Question #1

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- Purchase materials yourself and higher cheap labor to install
- Resend the request for bid proposal with the lowest bid attached asking for lower bids
- Contact all subcontractors and tell them all bids were too high and that an online auction for the contract will take place
- Do nothing

Sample Quiz Question

The final portion of the training program is the final examination. The exam features a question modeled from each respective topic section totaling fifteen questions. The requirement to pass the course is an 85%, or thirteen out of fifteen correct. If more than two are missed, then the program will take the user back to the beginning of the exam until it is successfully completed.

ETHICS TRAINING PROGRAM RESULTS

To evaluate the effectiveness of the construction ethics program a sample group of eleven people, including both students and industry members, completed the course. These eleven people were then asked to fill out an eight question exit survey evaluating the effectiveness of the construction ethics program, which can be found in Appendix E. The results of this survey were taken and compiled into Table 1.3:

No.	Question	Yes	No
1.	Do you consider the program to be a valid tool for ethical training?	100%	0%
2.	Would you recommend this program to your coworkers/peers?	91%	9%
3.	After completion of the program, would you act more ethically within the construction industry?	73%	27%
4.	Would you like your company/university to use this program as its means to train employees on ethical practices?	82%	18%
5.	Do you think that the program would fit into your companies/universities training program or learning curriculum?	73%	27%
6.	Is the benefit of taking the program worth the cost of it to your employer?	82%	18%
7.	Is the benefit of taking the program worth the time invested by the employees/students?	73%	27%
8.	Do you consider this training program to be a better alternative to your company's current method of addressing ethical practices?	91%	9%

TABLE 1.3

EXIT SURVEY ANALYSIS

The response from the program was extremely positive. As you can see from the table, all eleven of the participants who took the survey confirmed its validity as a training tool while all but one would recommend it.

PROGRAM PURPOSE

The question that defines the purpose of the program is “would you act more ethically within the construction industry after completion of the program?” The results show that eight of the eleven test subjects would act differently after the completion of the program. This demonstrates that the program is an effective tool to curb unethical practices in the construction industry. The ideal result would be for all test subjects to act ethically, but a reason that not all would act more ethically is that some believe they already behave in an acceptable manner.

The participants in the survey further demonstrated the program’s validity by saying they would like their company to offer this program as the training guide on ethics in their company/university. 82% of those who participated in the course attested to this and feel that it would fit into their company’s/university’s training program.

COST/BENEFIT RATIO

The next portion of the exit survey is with regards to the cost. Although the cost of the program to companies/universities was never revealed, 18% of those who participated felt that it would not be worth the price. Informal questioning afterwards revealed that the two participants who felt it would not be worth the cost said that they presumed the cost of the program to be in the \$10,000 range. Although the program would cost less, if it did cost over \$10,000 the potential benefits to your company would be far more reaching. The most important benefit perhaps to any company would be the question of liability in the event of a lawsuit involving ethical transgressions. Most companies have found that although the plaintiff usually files suit against the company as well as the defendant, the company usually is found not liable if they provided the correct and appropriate ethical training. One lawsuit against the company alone would make this program worth every penny spent on it.

The opportunity cost of taking the time to take the test is the next question posed by the exit survey to employees and students. As you can see, 73% of those surveyed said that the program was indeed worth the time it took to complete it. This number reveals that most individuals felt that the quality, material, and difficulty were worth the amount

of time it took to complete the program. Possible reasons for those who said that the program was not worth their time, identified from questioning following the survey, include the length of the program and the lack of depth of learning material. These two statements lead me to believe, by their contradictory meanings, that the program has close to, if not the right amount of length and depth of learning material.

The last question of the exit survey reveals a resounding yes for the ethics training program that I have developed over the current company/university method for addressing ethical practices. The 91% who said yes realize that this program defines, teaches, offers solutions, and finally tests the subject matter in an appropriate way. This program is found superior by those 91% because most likely their company/university does not offer appropriate ethics training material, as demonstrated earlier in the ethical need survey. This allows us to recommend to all companies and universities that the construction ethics training program is a smart, viable method for training a company's employees as well as a university's students.

EXIT SURVEY CONCLUSIONS

In conclusion to the exit survey, I have found that the test subjects find this program to be a valid tool for training construction ethics. Not only would they like their company/university to offer the program, but they also feel that it would fit right in to the current methods of training or learning. Furthermore, the test subjects found that the cost of the program would be worth the investment to the company as well as worth the investment of the individual employee's time to complete the training. Those surveyed also indicated that this program was superior to their company's or university's current method for training ethics. Lastly, and most importantly, the majority of those who completed the course felt that they would act more ethically in the construction industry. This is the defining characteristic of the program and illustrates the program's validity by showing that it actually taught and influenced the industry members and students ethical solutions to ethical problems. Therefore, again I strongly recommend this program for training in construction management companies, universities, and the industry as a whole.

ETHICS AND THE WARRENTON AQUATIC AND RECREATION FACILITY

Ethics can determine whether a project is successful or not, and the Warrenton Aquatic and Recreation Facility is no different. There are many corollaries that relate ethics and the construction of the facility. Perhaps the most important of these is the general contractor/project management team spearheaded by Forrester Construction Company.

Forrester Construction Company recently earned the National Capital Business Ethics Award. This award is judged and based off of the following criteria:

- A clear demonstration of the company's executive commitment to business ethics as demonstrated by speeches or other correspondence and communications from the CEO and other senior officers.
- A corporate code of ethics, credo, code of conduct, mission statement or philosophy that clearly communicates the company's requirement for honesty, integrity and compliance with the law in all business dealings.
- A means for employees, customers and other parties to bring ethical problems or conflicts to the attention of management and a mechanism for resolution that ensures fair and consistent treatment of the parties involved.
- A clear communication of the company's ethical standards, corporate culture, and expectations of employee behavior in company publications, employee handbooks, training courses and other materials.
- A clear indication that employees throughout the organization understand and accept the company's ethical standards, as indicated by survey results or internal audits.
- A narrative description of business ethics in action demonstrated by the company's response to a specific challenge affecting its operations or its industry, or by evidence of how ethical decision making is a part of the company's everyday operations, philosophy and culture.
- A consistently high quality of products, services, business and production practices, including demonstrated awareness of environmental impact, if appropriate.
- A corporate commitment to providing a work environment that is safe, free from harassment or inappropriate discriminatory behavior of any kind, and that fosters growth and opportunity.
- A community commitment that is demonstrated by involvement in local, regional and/or national issues, corporate philanthropy, support of civic and charitable endeavors through foundation grants, contributions, or gifts of time and materials.



Currently, Forrester does not offer a training program on ethics. Their strategy to this point in time has been to develop and instill a corporate mission and value statement that their employees believe in. This statement, “Through teamwork, we do the right



thing to make it happen,” is the backbone of Forrester’s corporate strategy towards ethics which they display everywhere. They created posters with it, put it on their business cards, attached it to company emails, displayed it in every field office trailer, and posted it on their website. As if this is not enough to market the ethics within the company, all new employees must go through an orientation that highlights the value statement at least twenty times and then again they have to repeat it during their employment review sessions that the company holds.

These criteria relate to every portion of the company, including the aforementioned project team found in the project staffing portion of this report. The project team has reported that the project is running smoothly with little ethical transgressions, mainly front end loading of the schedule by subcontractors. The project management portion of the team is working hard to deter this behavior and maintain an ethical project, which they seem to be doing a good job of.

CONCLUSION

The Warrenton Aquatic and Recreation Facility is a project that is not plagued by the many ethical transgressions that are so common in the construction industry. This is because the personnel in charge have a strong background in ethical practices that has been developed by their company, Forrester Construction Company. The company demonstrates that by addressing ethics in their corporate strategy and performing ethically they can still be a competitive general contractor/construction management firm. Their performance in the industry has earned them the National Capital Business Ethics Award and rightfully so for how much effort they have put towards acting ethically.

Ethics is a problem and always will be as long as people are more concerned with the bottom line rather than doing the right thing. A training program for employees does not have to be the solution to your companies or industries ethical problems. Developing

a mission or value statement that incorporates ethical practices into your company or following ethical codes laid out by the industry such as the ASCE Code of Ethics are viable strategies to make a company behave more ethically. All successful companies develop and maintain strategies that make them successful and ethics should be one of the key items that is addressed.

The construction ethics program that I developed is a viable training program that would teach proper construction ethics to industry members and students alike. The program identifies and teaches about the top fifteen industry identified ethical transgressions and then tests the knowledge of the subject matter through situational and informational questioning. Many companies do not offer training on ethics, in fact most do not offer any ethical information or development at all such as codes for example. The construction ethics training program will fit into the average construction company's training regiment as well as any university's curriculum. Therefore it is my recommendation that this tool be used by all industry members and universities alike who have interest in constructing projects ethically.