**IS ETHICAL BEHAVIOR PROFITABLE IN CONSTRUCTION?**

**A THERORETICAL FRAMEWORK**

**Abstract:**

There are two main competing theories concerning relationship between business ethics and profit. According to Nobel prize-winning economist Milton Friedman, managers should not take care about business ethics at all. Their only duty is to maximize profit. In contrast, according to the theory of "school of enlightened selfishness", the manager is responsible not only to shareholders but also to the wider community. In other words, according to this theory, the manager should take care about business ethics. Accordingly, the main purpose of this article is to apply these two theories on construction business and to check validity of these theories in construction. Or, in short, the main question is whether is it better for a civil engineer to follow the principles of business ethics or not. This analysis will be based on the game theory and rational choice theory. The main conclusions are, first, that an ethical behavior is profitable in situations when a long term cooperation with business partners, workers, customers and wider community is expected. However, second, construction business also provides many incentives for an unethical behavior that could be very lucrative. This article will explains under which circumstances one may expect an unethical behavior in construction. In the final part, this article will outline methods for empirical research about profitability of ethical behavior in construction.

Keywords: business ethics; profit; ethical theories; construction; game theory; prisoners’ dilemma; tragedy of commons.

1. **Introduction**

Jones (2004, 45) defines ethics as a set of moral principles and beliefs about what is right or wrong. Thus, business ethics is a set of our beliefs about what we consider as moral and immoral business. There are three main sources of business ethics. The first source is the professional ethics. The second source is social ethics. Each community has its own general moral norms, which in turn affects the way people behave at the workplace. So, for example, education that an individual acquires in the family will have a significant impact on his behavior at the workplace. If the family fosters authoritarian behavior, then that behavior will prevail in business organizations. If, at the society level, none cares about the vulnerable groups (for example, there is no universal health care), then the business organizations will probably also lack the spirit of solidarity. And economic situation in the country affects business ethics. It is hard to expect that people will follow the highest ethical standards if they have to fight for their mere existence. Surely, it is easier to insist on respecting business ethics if people have a good income, than if they cannot live from their own salaries. However, whether the standards of business ethics will be respected, depends on each individual. Therefore, the third source of business ethics is individual ethics. The owner of the construction company has to decide whether to offer a bribe to get a job, and at the same time the person who was offered the bribe must decide whether to violate business ethics.

1. **Business ethics and profit**

Business has never been based solely on ethical judgments. The primary motive of almost every employer is profit. Thus the question arises: what to do if someone has to choose between lucrative earnings - which can be achieved by disrespecting business ethics - and ethical business, which in a certain situation will not result in a lucrative profit? Neither economists nor theorists of business ethics have a unique answer to the question. Nobel prize-winning economist Milton Friedman argues that managers should take only the logic of profit. And the title of his famous article - The Social Responsibility of Business is to Increase its Profits (2000) - presents his basic argument (in Dienhart, 2000). Why should managers, as agents of the owner's company, care only about profit? Friedman explains this by the fact that the company owners invest their own money, and is therefore in their interest to make as much profit from the investment. Indeed, imagine that one have sold his/her own home and invest his/her money in construction business. Would he/she be interested in anything else other than to return the invested money and, possibly, to get profit? However, the question arises: what if his/her company pollutes the environment? Does this person need to take care of the people who live near his/her company? Or he/she should continue to think only about the profit? Friedman's response would be positive. It is not your obligation to care about the environment, unless the law forces you to do so. Friedman believes that it is not the duty of a businessperson to take care of the common good. It is state's responsibility. So, if the government has been negligent and has not passed legislation on environmental protection, the entrepreneur has the right to pollute. In other words, the entrepreneur does not need to be "more Christian than the Pope." The entrepreneur has the right, under existing legislation, to maximize the profit.

However, such Friedman's attitude raises many doubts. Suppose that the fines for polluting the environment are small, and setting the air and water purifier is very expensive. Is one allowed to violate the law in this case, regularly pay the fines and thus increase one’s profits? If profit is your sole responsibility, why should the law be above your profit? Another example: You own a private clinic that performs heart surgery. A patient, to whom another doctor recommended a risky heart surgery, comes to you. You, as a surgeon and the owner of the clinic know that this risky operation is not needed, but you can earn 100,000 Euros from this operation. Legally you cannot have a problem because you can always present documentation from doctor who recommended surgery. Do you need to follow Friedman in this case, who says that profit (and possibly the law) is the only thing you need to take into account? Would you, if you were the patient, forgive the doctor who unnecessarily did the surgery (of course, if you survived the operation)? If one believes that a doctor cannot operate due to ethical reasons, it is logical to expect that the construction company should install filters that would prevent the pollution of the environment, even if the law does not require it (because pollution can also be dangerous for health)? So, should logic of profit be above the norms of business and professional ethics?

Not all theorists share Friedman's opinion. Edward Freeman (2006) states that managers are responsible not only to the owners of shares but also to the local community, suppliers, customers and employees in the company. Marianne Jennings (2003, 46-7) calls this theory "school of enlightened selfishness" and says: "In line with this school, the manager is responsible not only to shareholders but also to the wider community. Enlightened egoism is based on the notion that socially responsible business is in long term more profitable than traditional egoism." School of enlightened selfishness would argue that it is in the building contractor's self-interest to protect the environment, even when the law does not require it from him, because if local people see that he pollutes the environment, they would boycott his products, the entrepreneur would get a bad reputation, and he would not succeed at the market. Also, the owner of the clinic would also bankrupt if it becomes known that patients were operated even when it was not needed, just to make more money. In other words, enlightened egoist is also partly an altruist because he/she cares about long-term clients, assuming that he/she would earn more on the basis of ethical behavior than by intentionally deceiving clients in order to get profit as soon as possible. Of course, there are some other reasons for acting morally - a sense of satisfaction due to honest work and absence of fear that immoral or even illegal actions will eventually be discovered and punished. Therefore, many companies are trying to take care not only of the clients and the local community but also of their own employees. So they build free kindergartens which are incorporated in the company, co-finance summer vacations of their employees, help them when the employees relocate, etc. That ethical behavior is often very profitable confirms the fact that Microsoft is one of the most successful companies in recent decades, known for giving large donations to various humanitarian projects. Obviously, a good image of the company has a positive effect on its business operations. However, that does not mean that it is always easy to respect business ethics when the logic of profit conflicts with business ethics.

1. **Game theory and business ethics**

So, is it profitable to respect business ethics? To answer this question, we will provide an example from related sciences. In political science and economics there is a very popular theory - game theory. One of the most popular games is the "prisoner's dilemma" which is based on the following story. A policeman catches two burglars, but there is not enough evidence against them. So, he says to both of them, (prisoners are not allowed to communicate and do not know whether the other one will confess the crime): "If both of you admit that you committed a crime, you will receive up to five years in prison. If you confess and your colleague does not, you will be acquitted for cooperating, and your colleague will get six years in prison. But if he confesses, and you do not, you will go to six years in prison, and he will be acquitted. Finally, if neither of you admit committing the crime, you will each get one year in prison for unauthorized possession of weapons." Graphically, proposal can be presented like this:

|  |  |  |
| --- | --- | --- |
|  | A admitted the crime | A did not admit |
| B admitted | A5, B5[[1]](#footnote-1) | A6, B0 |
| B did not admit | A0, B6 | A1, B1 |

So, if A confesses, he can get five or zero year in jail. If he does not admit the crime, he can get six or one year imprisonment. If A is an egotist, it is better for him to confess. The same applies to B. However, if both are egoists, they will both end up five years in prison, and if they are both altruists, they will be in jail for only a year. "Prisoner's dilemma" illustrates why ethical behavior can be useful - if one does not watch only one's own interest all parties are better off. If the above prisoners behave ethically towards each other (forget for a moment the broader community and the fact that they came into prison for burglary), then they will be better off than to think only about one's self. There is a similar situation in the society. Egoistical factory owner can benefit if he releases toxic chemicals into the river (because he would have a higher profit) than if he installs expensive waste water purifier in the plant. However, the waste in water can cause cancer to people who live along the river. Therefore, the benefit of the individual, the factory owner, is paid with the huge expense of the community - deaths and serious illnesses. The situation becomes unbearable if everyone behaved like factory owner, who also may develop cancer because other plants may discharge toxic gases in the city where the owner lives. Thus, the community has a lot more overall benefits from ethical behavior than unethical.

Ethical behavior reduces what is in economics called transaction costs, namely the costs of control. For example, imagine that in our own apartment we constantly live in fear that our housemates are going to rob us and we constantly have to hide our money. Such a life would be a constant source of stress and frustration. So a quality civil engineer will rather work for a company where the owner will never deprive him of his salary, or vacation or treat him unethically. Thus, the Mayo's experiments have shown that humane and ethical treatment of employees can often achieve better business results than unethical conduct (see Miller and Form, 1966). We would rather do business with a partner whom we consider fair, and who will not deceive us, than with a person who is dishonest. Therefore, adherence to business ethics simplifies our work as well as family ethics (not stealing each other's money) makes our lives easier.

Respect for business ethics affects the reputation. For example, if we bought a product which broke down and a salesman is immediately ready to replace the product purchased, we will rather buy products from this salesman than from the one who will try to convince us that the product was functioning, but that we simply did not know use it properly. So, the salesman who replaces a product acquires a good reputation and the individual will not only buy from him but he will also recommend him to his close friends. In this case, the benefits of compliance with business ethics will be mutual, because both of them, the buyer and the seller, will be satisfied.

There is also the immaterial reward for ethical business, and it is a feeling of satisfaction that pervades the man whose honest work enabled him and his family to have a decent living. Of course, even a thief can get rich, but nevertheless, he is still haunted by the fear that his thievery will eventually be discovered. Moreover, it is a quite different feeling when people get rich by writing and selling their own quality books, than getting enriched from robbery. Wealth gained through honest work causes a higher self-esteem and respect for others, while the wealth gained through disgraceful conduct often causes contempt of others, and unethical person can feel remorse.

However, it is important to note that the state of law, which punishes violations of the law, is a prerequisite for the development of business ethics. If those who violate moral and legal rules are constantly avoiding punishment then more and more people resort to unethical business. In every society some criminals succeed to conceal the traces of their crimes, but there is a big difference between a society in which a success of an unethical individual is an exemption and the society in which majority of reach people are those who do not respect business ethics at all.

1. **Business ethics in construction**

By now, a general theory about the relationship between profitability and business ethics was presented. But, do we have some peculiarities in construction business? Is relationship between business ethics and profit different than in others branches of economy? In order to answer this question, we will return to game theory. It was presented above that common interest of two players is to cooperate. In this case, their over result would be better (they will spend less years in prison). However, from individual point of view, it is better to cheat (not cooperate). In this case, one may spend less year in prison or even be released from prison. The same imagined situation can be transferred to environment in construction business. If a construction company wins a tender for refurbishing tunnels on a highway - as a result of bribe offered to some politicians - the common interest will be in jeopardy, because taxpayers will have to pay more than in situation in which a tender is transparent and without corruption. However, the very construction company would earn more because bribed politicians would ensure that this company wins in competition with others and that this company is payed more than other companies that participate in the tender. In other words, an individual player may earn more by not cooperating (by cheating).

Experiments, conducted on the basis of prisoner's dilemma, showed that cooperation is profitable in iterated games: i.e., if people work together for a long time they will earn more by ethical behavior than by cheating each other. For example, one would rather give job to a construction company that fulfill all the obligation, stated in a contract, that to a company that tries to avoid its obligations. In addition, a skilled worker would rather work for a company that always give salary on time that for a company that tries to cheat its own workers. Furthermore, local government would prefer a construction company that does not pollute environment. In short, trust enhance profit in construction projects (Cerić, 2016).

However, in spite of all these obvious advantages of ethical behavior, one can find examples of unethical behavior in construction business almost on a daily basis. It is enough just to read newspapers and one will find plentitude of examples in which, construction companies, for example, did not pay their workers. Or, examples in which a company wins a tender in spite of the fact that other company offered much better contract. According to *Construction Sector Transparency Initiative (CoST)*, the value of losses through corruption in construction is, globally, between one and three trillion dollars a year (10 to 30 percent of the value of global construction output). CoST also provide very plausible explanation why the scale of corruption is so high in construction business. They cite 13 important reasons but five of them are the most important ones:

1. Uniqueness: No two construction projects are the same making comparisons difficult and providing opportunities to inflate costs and conceal bribes.

2. Complex transaction chains: The delivery of infrastructure involves many professional disciplines and tradespeople and numerous contractual relationships that make control measures difficult to implement.

3. Work is concealed: Materials and workmanship are often hidden, e.g. steel reinforcing is cast in concrete, masonry is covered with plaster and cables and pipes enclosed in service ducts.

4. Official bureaucracy: Numerous approvals are required from government in the form of licenses and permits at various stages of the delivery cycle, each one providing an opportunity for bribery.

5. The scale of infrastructure investments: Investments in economic infrastructure such as dams, airports and railways can cost tens of billions of dollars making it easier to conceal bribes and inflate claims.

So, why unethical behavior is spread in construction in spite of the fact that, in long term, ethical behavior is more profitable? From the analysis above, it is obvious that one of the most important reasons for unethical behavior in construction, from the standpoint of game theory, is *uniqueness*. Robert Axelrod (2006) explains why it is very important whether one has just one contact with another player, in prisoner’s dilemma, or these two people play itinerated games. Let us assume that above mentioned prisoners face possibility for an award instead of prison. For example, they should choose between sharing an award or to take everything for himself/herself. If both players want to share they would get, for example, $5,000. If both want just for himself/herself they would get just $1,000. However, if one says that he/she wants to share and another player says that he/she wants everything for himself/herself this egoist gets $6,000 and another player gets nothing. So, what would be the best answer? If they take into account their common interest, the best strategy is that both of them want to share. Their common award would be, in this case, $10.000. However, from individual standpoint, it is better to demand everything for himself/herself. In this case possible awards are $1.000 or $6,000. If he/she wants to share, possible awards are $ 0 or $ 5,000.

|  |  |  |
| --- | --- | --- |
|  | A wants to share | A wants everything for himself/herself |
| B wants to share | A $5,000 B $5,000 | A $6,000 B $0 |
| B wants everything for himself/herself | A $0, B $ 6,000 | A $1,000 B $1,000 |

So, if this game is played just ones, it is more profitable not to cooperate (to play egoistically). But what if this game is played several times, with same players? Is egoism still the best strategy? The answer on this question is negative. After several repetition of this game, both players would conclude that they earn, together, just $2,000 in every itineration instead of earning $10,000. In this case one may earn more by playing egoistically just if the other player does not retaliate. If first player is always egoist and another always altruist, the first player would earn $6,000 each time and another would earn nothing. However, it is very likely that the second player would stop playing altruistically, seeing that altruism does not bring him/her any award and he/she would, most likely, also start to play egoistically. After several itineration, both would conclude that it is better to cooperate and they would start to play altruistically (following their egoistic interests). In short, itinerated games force egoists to behave altruistically in order to maximize their profits. Accordingly, types of business in which people interact frequently stimulate altruistic behavior. If one has a grocery store with regular customers, it is in his/her interest to be altruistic toward his/her customers. For example, if one regular customer wants to return certain product, it is wise for owner of this grocery store to accept this demand of the customer knowing that, in long run, he would earn much more by satisfying customer’s needs than by trying to earn refusing demands of the customer. From the viewpoint of game theory, business in a grocery store is an itinerated game.

In contrast, construction industry is frequently prisoner’s dilemma game with just one interaction. Here, as it was explained above, egoism is more profitable than altruism. If one entrepreneur thinks that he/she will build just one house for a certain customer, it might be profitable to spare during the process of building this house in order to decrease the cost and in order to increase the profit from this one project. As a result, the quality of this house could be lower than it is expected. This is especially true if we know that it is relatively easy to conceal work in construction (see point number 3 above). In short, unethical behavior can be profitable more frequently in construction than in other businesses, which is in accordance with the game theory.

There is an additional rational choice explanation for unethical behavior in construction business – the tragedy of commons. According to William Forster Lloyd (1833) this is the situation where individual users acting independently according to their own self-interest behave contrary to the common good. A classic example is situation when cattle herders share a common parcel of land. All herders have interest to use the common land as much as possible because profit from herd would be individual but cost of using the land will be paid by the entire society. As a result, the common parcel could be depleted or even destroyed, to the detriment of the entire society. Similarly, large-scale infrastructural projects are frequently financed by entire society but private companies build this infrastructure. Hence, there are many possibilities for bribe because construction companies can earn a fortune participating in this projects. Furthermore, politicians pay this projects not with their own money but from money collected by taxes. Therefore, they are tempted to take the bribe. Or, to use rational choice theory, their self-interest motivate them to behave contrary to the common goods. Once again, construction industry provides more incentives for unethical behavior than other businesses.

Does it mean that ethical behavior is not profitable in construction? It would be too hastily to make this conclusion. Cerić’s book (2016) shows that trust in construction (and trust is based on ethical behavior) increases profit. According to one respondent in the survey for this book,

reputation is the most important strategy since a contractor with a good reputation to complete the project on time and with minimum problems will definitely minimize the risk for the project owner. It is the same for the contractor. A reputable project manager will definitely be much more predictable for the employers than any other. So the risk is minimized (p. 77).

 However, reputation is important in, to use the terminology of the game theory, itinerated games and in situation where it is not possible to take common goods for your own sake. Accordingly, an appropriate legal framework should prevent unethical behavior. In other words, ethical behavior and trust can prevail if cost of unethical behavior becomes too high.

 This article is a theoretical analysis of motivation for ethical and unethical behavior in construction business. However, every theory should be empirically tested in order to prove its validity. Recently, we have a plethora of empirical research about corruption in construction. It would be out of the scope of this article to present all works that deal with this topic. Nevertheless, this article will, at the end, present some articles that are connected with the theoretical analysis above, especially those articles that propose some possible solutions that may prevent unethical behavior in construction.

 Bowen at al. (2016) analyzed corruption in the South African construction industry, on the basis of an opinion survey of clients and construction professionals, and concluded that corruption is perceived to be widespread, what is in accordance with our prediction based on game theory. Furthermore, the authors found out that government officials (as clients) are most involved in corrupt activities, which is in accordance with the theory of the tragedy of commons. Bowen et al. suggest the inclusion of ethics topics in tertiary education and training curricula as one of the possible remedies for corruption. Patrick Zou (2006) found that corruption is also widespread in construction in China. He concluded that two most important measures for prevention of corruption in construction are development of appropriate organizational culture and severe punishment and prosecution of corrupt personnel, especially personnel that work for state bureaucracy. Finally, Glavinja et al. (2017) found many similarities in patterns of corruption in the United Kingdom and Croatia. Furthermore, more than 90 percent of respondents in Croatia believe in frequent occurrence of corruption in construction. In addition, 70 percent of respondents believe that corruption occurs at the level of local government and 60 percent of respondents claim that corruption also happens on the state authority level which is also in accordance with the rational choice theory (tragedy of commons).

 All the articles presented above have one thing in common – they claim that corruption is widespread in construction business almost everywhere in the world. They differ in proposed remedies. Zou (2006) claims that solution is severe punishment for corruption but other authors emphasize more organizational culture and education as remedies. Furthermore, empirical findings in these articles support theoretical analyzes in this article. Simply saying, game theories and rational choice theory help us explain why corruption occurs more frequently in construction than in majority of other branches of economy.

 At the end, it is important to present possibilities for further research in this field. This research applies game theory and rational choice theory in explanation of possible causes of widespread corruption in construction but just on theoretical basis. Many articles and books analyze corruption in construction business empirically, checking game theory just indirectly. Some of these works are presented above. However, it might be important to check game theory and rational choice theory in construction business directly. For example, it would be interesting to compare presence of ethical behavior between business partners in construction who have frequent business interactions with presence of ethical behavior in situation where business partners (subcontractors, for example) interact only once. Our hypothesis is that the more business partners interact the higher is probability for ethical behavior. Second, in order to check applicability of “tragedy of commons”, it would be interesting to compare probability for ethical behavior when one business partner is state bureaucracy with probability for ethical behavior when both (or all) business partners are private companies. Here, our hypothesis is that unethical behavior is more likely to occur when private companies deal with state bureaucracy (this was one of the arguments for comprehensive privatization of state companies). However, both hypotheses should be checked empirically. The very fact that people try to hide corruption would be the main obstacle for this type of analysis, similarly like in any other type of research about corruption.

1. **Conclusion**

After presenting theoretical arguments about relationship between business ethics and profit, this article applied game theory for analysis about profitability of ethical behavior in construction business. The main conclusion is that, from the prospective of game theory and rational choice approach, construction business provides more incentives for unethical behavior than majority of other brunches of economy. There are two main reasons for it: uniqueness (reputation is less important in situation when business partners interact only ones) and “tragedy of common”, which means that public finance of big infrastructural projects provides many opportunities for bribery. Empirical research should further test these theoretical assumption about applicability of game theory and rational choice approach in the analysis of profitability of ethical behavior in construction.

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1. Years in prison. [↑](#footnote-ref-1)