



# The concept of corruption in construction supervision and implementation, its causal factors and forms

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**Abstract:** This article analyzes the concept of corruption in the control and implementation of construction, the factors causing corruption, the views of foreign scientists in this regard, the specifics and forms of corruption in the construction industry.

**Keywords:** Corruption, corruption in the field of construction control, causes of corruption, forms of corruption.

**Introduction:** Nowadays, corruption is an extremely dangerous and widespread destructive phenomenon that exists in almost all spheres of modern society. The manifestation of corruption significantly complicates the solution of acute social problems, weakens the population's trust in the government, discredits laws in the eyes of society, and ultimately contributes to the aggravation of social tensions.

Although there is no single definition of corruption, it is widely recognized that it involves the abuse of entrusted power by individuals or institutions in the public and private sectors for personal gain. Corruption negatively affects all segments of society and causes unfair distribution of resources and misallocation of public funds. This can lead to a decrease in public confidence in the government and the legal system. Corruption also threatens human rights and undermines the rule of law, democracy, and economic development.

In the words of our head of state, since the emergence of the state and society on earth, mankind has assessed

bribery and corruption as one of the social vices that hinder the prevalence of the principles of justice, equality, healthy competition and integrity in society, and has fought against it throughout history.

According to the provided Uzbek text, corruption is prevalent in the construction industry, much like many other sectors, due to various reasons. The large sums of money directed towards construction projects contribute to price inflation and conceal substantial bribes. The global construction market is estimated to be worth 3,200 billion dollars annually. However, according to data from the American Society of Civil Engineers, corruption accounts for 340 billion dollars of construction value worldwide each year.

The construction industry has consistently been identified as one of the most corrupt sectors worldwide. According to the Bribe Payers Index from 2011, the level of corruption in construction exceeded that of any other sector of the economy (Transparency International, International Secretariat, 2011).

Reports released by the Organisation for Economic Co-operation and Development (OECD) (2014) state that corruption amounts to approximately 2.6 trillion dollars annually, representing 5 percent of global gross domestic product (GDP), with roughly 1 trillion dollars taking the form of bribes. Furthermore, as highlighted by Charles Kenny, a researcher at the Center for Global Development, the construction industry is valued at 1.7 trillion dollars internationally and accounts for 5-7 percent of many countries' GDP.

The construction sector is characterized as the most corrupt industry in the world. When Transparency International last released its "Bribe Payers Index" in 2011, it was revealed that the public works contracts and construction sector ranked last on the list of industries prone to bribery. Corruption in the industry can range from fraud to extortion, embezzlement, and other abuses.

According to the "Global Construction Futures" report, a major study of the global construction and engineering industry published by the team of construction economists at Oxford Economics, the global construction market represents a very large value and is projected to grow to nearly 14 trillion dollars by 2037.

Furthermore, analysis by the Anti-Corruption Research Centre at the Michelsen Institute in Norway suggests that approximately 10-30% of the value of government-funded infrastructure is lost each year due to corruption.

Based on the above statistical data, it can be said that because corruption incidents occur more frequently in

the construction sector, it is important to constantly seek innovative measures to prevent global and domestic losses.

Invariably, as a country with a developing construction industry, our country is not immune to corruption in the construction sector. Therefore, taking into account the importance of this issue, the purpose of this article is to clarify the concept of corruption in the industry, identify its main causes and forms, and bring them to the attention of the bodies responsible for construction projects.

From this point of view, based on the specifics and wide scope of the construction industry, it is a requirement of the time to scientifically and legally investigate the activities of identifying, preventing, eliminating and combating the factors that cause corruption in the industry.

Corruption in compliance with building codes is associated with widespread building defects and loss of life in disasters. Recent statistics show that 83 percent of earthquake deaths in the last three decades have occurred in the most corrupt countries, as identified by Transparency International.

Before defining the concept of corruption in construction oversight, let's first examine the word "corruption," which does not have a single definition. The word expresses different meanings in various contexts. Corruption originated from a medieval Latin word, representing moral decay, wicked actions, filth, or deterioration.

The root of the word "corruption" is in the Latin adjective "corruptus," which means broken, damaged, or destroyed.

Corruption is typically described as any actions that violate societal norms for the sake of gaining status, money, or income.

As a rule, corruption has various definitions depending on context and scale. One of the most widespread definitions is provided by the World Bank as follows: "offering, giving, receiving, or soliciting, directly or indirectly, anything of value to influence the actions of another party".

Additionally, Transparency International defines corruption as the abuse of entrusted power for personal gain.

Although the negative consequences of corruption are well-known and noticeable, a single definition is not sufficient to express the term. As noted by Michael Johnston, a political scientist from Colgate University, this term originates from the Latin word "corruptio" and means "moral decay, rottenness, filth, or bad behavior".

Additionally, U. Myint, a professor of economics from

Myanmar, defines corruption as the use of a state position for personal gain, or in other words, the utilization of an official position, title, or status by its holder for personal benefit.

In reality, corruption in the construction sector undermines societal values, impedes decision-making, reduces project quality, consequently shortens the service life of buildings, deprives the majority of the population of a quality life, and most importantly, among other devastating and harmful effects, seriously impacts human life or leads to losses.

For this reason, all participants in this sector, including specialists, clients, and the government, must collaborate to collectively solve this problem.

Regarding the concept of corruption in the construction sector, scientists have provided various definitions.

One group of scientists, led by Lee and others, view corruption in the construction sector as appropriating powers given through construction projects.

Opoku and colleagues, who studied the causes of corruption in the Thai construction industry, defined corruption as fraud, offering, accepting, requesting, violations, unfair treatment, and misusing work hours for personal gain.

After analyzing existing literature, we found a scarcity of scientific definitions for the concept of corruption in the construction sector, and we did not encounter a specific definition for corruption in construction oversight and implementation.

Nevertheless, by generalizing the above definitions, we attempted to provide the following definition:

**Corruption in Construction Oversight and Implementation** – is a process of interest exchange among participants, i.e., subjects of construction implementation and oversight, which involves offering, giving, providing illegal economic incentives, receiving, or requesting valuable items to influence the actions of an official with construction oversight authority, deliberately misusing their powers to obtain illegal personal benefits, not performing their duties fairly, and violating weak oversight and professional responsibility.

In developing effective and strategic anti-corruption measures for construction oversight, better results can be achieved by first understanding and identifying the deeper causes of corruption.

To effectively control the level of corruption in construction, it is necessary to identify the key factors of corruption in construction.

To identify corruption, a comprehensive analysis of all

potential corruption factors that may arise in a specific field is required.

According to B. Ismoilov and E. Gadoev, corruption factors are social phenomena and processes that influence the emergence, preservation, modification, and spread of corrupt behaviors in society.

In general, preventing corruption in the construction sector and its causes have been researched by numerous scientists in scientific publications.

Specifically, Chinese scientists E.K. Owusu and colleagues analyzed 37 scientific publications and identified 44 causes of corruption in construction project management.

They categorized these 44 causes into 5 groups: psychosocial causes, organizational causes, regulatory causes, project-specific causes, and legal causes.

Scientists from South Korea's Pukyong National University, Kim Su Yong and Kiyanoush Golchin Rad, who studied corruption causes in Iranian construction projects through surveys and analyses, noted three most critical factors: "Improper distribution of power", "Lack of employee obligation to properly use resources and follow rules", and "Absence of any government oversight".

Fully agreeing with these views, it can be additionally noted that the weakness and inconsistency of construction oversight systems can also cause corruption.

Moreover, they list twelve corruption forms identified in previous studies of developed countries: bribery, fraud, collusion, bid rigging, embezzlement, kickbacks, conflict of interest, dishonesty and unfair actions, manipulation, negligence, front companies, and nepotism.

Lee Ping Tang and colleagues noted that corruption in the construction sector often stems from overly close relationships between project participants, which provokes corrupt practices such as nepotism and bid manipulation during the tender stage.

Researchers from Indonesia's Bung Hatta University, Ariani and colleagues (2023), indicate at least ten factors leading to corruption in construction projects, including incorrect tender evaluations, improper oversight, document proposals inconsistent with actual conditions, close relationships between parties, and poor professional and ethical standards.

Furthermore, a group of scientists, while analyzing the causes of corruption, highlight the mediating role of the ethical climate.

Specifically, American scientists Kelly Martin and John Cullen emphasized that the ethical work environment is

crucial for organizational culture and influences the resolution of ethical contradictions and behaviors.

Scientists from the University of Salford in the United Kingdom, Olusegan and colleagues, argued that the lack of ethical norms among construction workers leads to unethical and undisciplined behaviors, intensifying corruption in the construction sector.

According to scientists from Indonesia's Persada University, Fakhruddin Mart and Sabrina, the ethical climate mediates positive relationships between leadership and subordinates' intentions of corruption.

Supporting the above views and emphasizing that corruption is an unethical behavior, we can say that the ethical environment plays a significant role in the emergence of corrupt situations in construction oversight and implementation.

If ethical leadership and the leader's moral example are not at a high level among state oversight agencies and workers in the construction sector, the existence of a low ethical environment can itself create opportunities for corruption.

Therefore, we can note negative leadership and lack of ethical leadership as key causes of corruption in this sector.

This is because leadership in any field positively influences creating an ethical environment that reduces subordinates' intentions of corruption.

Additionally, the experience of COST (European Cooperation in Science and Technology) - an organization financing research and innovative networks - shows that large-scale losses in the construction sector can be caused by mismanagement and inefficiency. This means that by 2030, if effective improvement measures are not implemented, approximately 6 trillion dollars might be lost annually due to corruption, mismanagement, and inefficiency.

Scientists from the UK's Loughborough University, Mu Soheil and Sue Cavill, have identified that corruption typically emerges due to: (a) large flow of government funds, (b) competitiveness of the tender process, (c) lack of transparency in tender trading and selection criteria, (d) political interference in cost decision-making, (e) complexity of institutional roles and functions, and (f) asymmetric information among practitioners.

Scientists from the Indian Institute of Technology, Tabish and Kumar Ja, emphasized the lack of a standardized project execution system as a fundamental cause of corruption in the sector.

Moreover, this form of lawbreaking is carried out covertly and is extremely difficult to detect due to the lack of access to relevant project documents or

interested parties.

By analyzing the presented opinions, views, and listed causes and factors, it is possible to divide the causes of corruption in construction oversight and implementation into general and specific types.

General causes are those common to all sectors, such as lack of transparency and accountability, while specific causes stem from the unique characteristics of the construction sector - the complexity of infrastructure and the complex contractual structure of projects.

Based on the specific features of construction oversight and implementation, we can list several unique factors contributing to corruption:

- Uniqueness of Construction Objects. In the construction sector, nearly no two construction projects are exactly alike, making objective cost assessment difficult and creating opportunities for cost inflation and hidden bribes.

- Presence of Complex Financial Operations. The construction sector involves numerous professional disciplines and contractual relationships, making effective oversight extremely challenging.

- Existence of Hidden Works. Construction materials and products are often concealed, allowing for substitution with lower-quality or cheaper alternatives, which serves as a source of various types of misconduct.

- Bureaucracy. Multiple documents, licenses, and permits must be obtained and approved at various stages of construction implementation, creating opportunities for corruption and bribery.

- Scale of Expenditures. Investments in engineering and construction infrastructure, especially for complex and unique objects, can be very large, making it easier to hide inappropriate expenses, theft, and bribes.

Additionally, the annually increasing demand for construction creates intense competition among service providers. Competition often leads to corruption.

We believe the causes of corruption in construction oversight and implementation can be divided into three types:

Social Causes – human-related reasons, including the desire to easily acquire personal wealth, lack of professional ethical standards and moral leadership, and low legal culture among professionals or construction workers.

Organizational Causes – factors originating from organizational structures or institutions. These include lack of continuous and strict oversight during project implementation, absence of transparency and accountability, insufficient transparency in construction regulations and processes, inadequate project

supervision by customer representatives, and use of low-quality materials by contractors or suppliers.

Normative or Regulatory Causes – insufficient legal penalties and sanctions, lack of effective oversight mechanisms, inefficiency of state construction regulation systems, and low risk of detecting and punishing corruption in construction.

Due to the volume, uniqueness, high costs, multi-stage nature, and complexity of construction projects, construction is considered more prone to corruption compared to other economic sectors.

Construction sector corruption can encompass multiple forms associated with various types of behavior, including bribery, embezzlement, nepotism, manipulation, money laundering, fraud, and conflict of interest.

Below, we will review the widespread corruption forms in the construction sector.

American famous judge and scholar John Thomas Nunan in his 1984 work "Bribes" considers that the first instance of corruption was recorded in the form of bribery around 3000 BC.

Therefore, bribery continues to be considered the primary form of corruption that has existed to this day. However, due to the evolution of corruption over the years, various forms of corruption have emerged, and more money is being spent on these new forms.

Researchers from Hong Kong Polytechnic University, A. Chan and E. Owusu, who studied corruption forms in the construction industry, list bribery, fraud, collusion, embezzlement, nepotism, and manipulation as the most frequently mentioned corruption forms in literature.

Scientists from South Korea's Pukyong National University, Kim Su Yong and Kiyoungh Golchin Rad, based on studies conducted in developed countries, list twelve corruption forms in the construction sector: bribery, fraud, collusion (conspiracy), bid rigging, embezzlement (misappropriation), kickbacks, conflict of interest, dishonesty and unfair actions, manipulation, negligence, front companies, and nepotism.

Bribery is the most widespread and serious form of corruption in the construction sector, especially in developing countries.

According to Professor Winston Shakantu from Nelson Mandela University in South Africa, bribery is considered a large-scale corruption practice because corruption means "offering, giving, receiving, or requesting anything of value to influence the actions of an official during the procurement or selection process or contract execution".

One of the most frequently mentioned forms of corruption is fraud.

As Australian scientists Charles Wee and Martin Skitmore noted, fraud is also considered a widespread form of corruption in construction. This practice primarily occurs in the form of false, incorrect information and calculations paid for non-existent materials, fraudulent requests for time extensions, intentional misleading and information concealment, document alteration, and material theft.

Another form of corruption is collusion or conspiracy. According to P. Bowen and colleagues, who conducted empirical research on ethical behaviors in South Africa's construction industry, collusion is a corruption form where a secret agreement is reached between two or more parties for false purposes. Collusion can benefit participants but may sacrifice the project's or public's basic interests.

Anna Zarkada Fraser, a researcher from Australia's Bond University studying tender process collusions, emphasized that collusion seriously undermines the competitive nature of the construction industry.

Another form frequently mentioned in literature is fraud. The Association of Certified Fraud Examiners (ACFE), the world's largest anti-fraud organization, defines fraud as "any activity based on deception to achieve profit".

Furthermore, in professional fraud, the concept of "using one's profession to personally enrich oneself by deliberately misusing or misappropriating an employer organization's resources or assets" is proposed.

The construction industry is not immune to professional fraud. According to ACFE's 2022 report for nations, among analyzed sectors, the construction industry ranked fourth with average losses of 2.9 million US dollars due to fraud.

Based on the above, the main forms of corruption in construction oversight and implementation can be identified as bribery, embezzlement, nepotism, influence peddling, theft of state funds or assets, fraud, and falsification.

Additionally, we can list money laundering, shadow economy, and shell companies as corruption forms.

It is no secret that some construction companies hide their revenues, pay salaries "in envelopes", and spend certain funds to resolve issues related to state institutions.

Regarding the analysis of corruption crimes in the construction sector in our country, the Anti-Corruption Agency analyzed corruption crimes committed in the Ministry of Construction and Housing and Communal Services system in 2022-2023, along with factors

causing these crimes. According to statistical data from the Supreme Court of Uzbekistan, in 2023, 227 corruption cases involving 458 individuals were completed by courts. In 2022, this indicator was 255 corruption cases involving 476 individuals. As a result of these corruption crimes, material damage to society and the state amounted to 100.2 billion (82.6 billion in 2022) soums.

The analysis shows that while the overall number of corruption crimes in the sector has decreased, the amount of damage has increased by 20 billion soums. Most corruption crimes were committed through abuse of position, abuse of power or official position, and embezzlement (mostly in combination).

Analyzing the types of corruption crimes in 2023, embezzlement through abuse of position was committed by 423 people (428 in 2022), and abuse of power or official position by 11 people (10 in 2022).

In the study, out of 458 individuals who committed corruption crimes in the capital construction sector in 2023, 89 were employees of departments and organizations under the ministry, 44 were employees of the Inspection for Supervision of Construction and Housing and Communal Services, and the remaining 325 were employees of other sectors or citizens.

Based on these figures, analyzing the causes and factors of corruption crimes in the capital construction sector revealed that the type of corruption crimes is related to the social status of the perpetrators, primarily involving collusion with contractors, using fake documents to misappropriate funds, turning a blind eye to legal violations, and insufficient legal knowledge of sector employees. Particularly, state funds were embezzled by introducing false information into invoices for completed construction and renovation works.

The report indicates that the following factors contributed to these crimes: incomplete digitization of functions and roles in the sector, people's attempts to easily earn money, lack of intransigent attitude towards anti-corruption efforts, low salaries of state employees, weak departmental and public oversight of sector employees, insufficient anti-corruption awareness campaigns, lack of understanding of the negative consequences of crime, and high latency (non-exposure) of corruption crimes in the sector .

As mentioned, corruption can emerge in various forms and can occur in any construction activity and at any stage of the construction process, from design to project completion.

The International Federation of Consulting Engineers (FIDIC) emphasizes that corruption can emerge in

decision-making on claims, issuing payment certificates to contractors, construction oversight, tender evaluation, and other such processes.

The tender stage of construction can include collusion, attracting funds to overstate completed work, hiding the use of low-quality construction materials, and a number of other actions.

Therefore, the most common corruption forms in construction processes can be identified as follows:

**Bribery:** offering or receiving bribes to secure contracts, permits, or favorable conditions.

For example, a tender is being proposed for a contract to build a new government agency building. The company owner meets with the government official responsible for awarding the contract and offers a large sum of money to ensure the contract is given to their company. The official agrees to accept the bribe and ensures the contract is awarded to the construction company, even if it is not the most qualified participant.

**Bid Manipulation:** manipulating the negotiation process between contractors, leading to price increases and unfair competition.

**Theft:** misappropriation of funds or resources for personal gain, often through fake invoices or expenses.

For example, a company's financial specialist with access to the bank accounts of a state or private organization begins transferring funds from the company's account to their personal account. They use this money to pay personal debts and finance their lifestyle. As stolen funds increasingly accumulate over time, they alter financial and bank reports to hide their actions.

**Kickbacks:** illegal payments made in exchange for awarding contracts or subcontracts.

For example, an employee or supplier responsible for purchasing construction materials for a construction company may agree to buy materials in large quantities from a company with higher prices or not the best quality, even when other suppliers offer better products at lower prices. The seller then proposes returning a percentage from the sale.

**Extortion:** forcing or demanding payments or privileges under the threat of disrupting or damaging construction projects.

**Fraud:** falsifying documents, misrepresenting project costs, or providing substandard materials.

**Conflict of Interest:** engaging in activities that compromise objectivity, such as helping specific suppliers or subcontractors for personal gain.

For example, a government official responsible for awarding contracts for construction projects gives

contracts to their own company or companies belonging to their family members, despite more qualified and competitive participants being available. This is a conflict of interest because the official uses their position to further personal interests, compromising the fairness and transparency of the procurement process.

**Money Laundering:** Hiding the origin of illegally obtained funds through construction projects.

For example, a government official in the construction sector receives bribes from various sources in exchange for awarding state contracts. To hide illegal income, they open shell companies and offshore bank accounts to transfer bribes and present them as legitimate business operations. They then use the laundered funds to purchase property, luxury goods, and other assets, creating a facade of legal wealth.

## CONCLUSION

In conclusion, factors causing corruption in construction oversight and implementation refer to actions (or inaction), situations, and processes that obstruct the execution of construction projects in accordance with project and construction norms and laws, interfere with the legal activities of supervisory officials, and pose risks to the quality of construction objects.

Additionally, corruption-inducing factors can be grouped or expanded into several categories. However, these factors in construction oversight have one common characteristic: they threaten the safety and quality of construction objects.

Moreover, contracts and projects in the construction sector are typically large and exclusive. Such complexities make monitoring construction projects difficult, which facilitates participants' engagement in corrupt activities like bribery and embezzlement.

Furthermore, many construction projects involve diverse and scattered stakeholders – government, clients, contractors, subcontractors, supervisors, suppliers, and others. Therefore, effectively tracking payment details, fund movements, and other resources in these projects is often challenging.

Additionally, all forms of corruption damage the integrity of construction projects, cause cost increases, compromise the safety of construction objects, and lead to a loss of public trust.

## REFERENCES

Мирзиёев Ш.М. Янги Ўзбекистон стратегияси. - Тошкент: Ўзбекистон, 2021 йил 417-бет.  
M. Sohail, & Sue Cavill. (2008). Accountability to Prevent Corruption in Construction Projects. *Journal of*

*Construction Engineering and Management*, 134(9), 729–738.

<https://www.transparency.org/en/publications/bribe-payers-index-2011>

<https://www.oecd-ilibrary.org/docserver/dcr-2014-en.pdf?expires=1730095021&id=id&accname=guest&checksum=066E7BE2BC1CC4C1B0F1FF54B2C4168C>

[https://www.cgdev.org/sites/default/files/1425688\\_file\\_Kenny\\_construction\\_contracts\\_FINAL.pdf](https://www.cgdev.org/sites/default/files/1425688_file_Kenny_construction_contracts_FINAL.pdf)

<https://www.transparency.org/en/publications/bribe-payers-index-2011>

<https://www.constructionbriefing.com/news/how-much-will-the-global-construction-industry-be-rth-by-2037-/8031247.article>

<https://www.u4.no/publications/the-credibility-of-corruption-statistics.pdf>

Building regulation for resilience managing risks for safer cities. Электрон манбаа:

<https://documents1.worldbank.org/curated/en/326581468337788007/pdf/ACS15966-WP-PUBLIC-BRR-report-002.pdf>

[https://cerge-ei.cz/pdf/gdn/rrc/RRCI\\_17\\_paper\\_01.pdf](https://cerge-ei.cz/pdf/gdn/rrc/RRCI_17_paper_01.pdf)

Hogdson, G. M., & Jiang, S. (2007). The Economics of Corruption and the Corruption of Economics: An Institutional Perspective. *Journal of Economic Issues*, 41(4), 1043–1061. <https://doi.org/10.1080/00213624.2007.11507086>

Nye, J.S. Corruption and political development: A cost-benefit analysis. *Am. Polit. Sci. Rev.* 1967, 61, 417–427.

Klitgaard, R. (1988). *Controlling corruption*: Univ of California Press

<https://www.transparency.org/en/what-is-corruption>

Johnston, M. (1996). “The search for definitions: The vitality of politics and the issue of corruption.” *Int. Soc. Sci. J.*, 48(149), 321–335.

U. Myint. “Corruption: Causes, Consequences and Cures”. *Asia-Pacific Development Journal*, Vol. 7, no. 2, December 2000.

Le, Y., Shan, M., Chan, P. C., & Hu, Y. (2014). Overview of corruption research in construction. *Journal of Management in Engineering*, 30(4), Article 02514001. [https://doi.org/10.1061/\(ASCE\)ME.1943-5479.0000300](https://doi.org/10.1061/(ASCE)ME.1943-5479.0000300)

Opoku, A, Poshyanand, M, Elmualim, A, Kavishe, N, Mushtaha, E S N and Abdalla, S B (2022) Corruption in the Construction Industry: An insight from the Thai Construction Sector In: Tutesigensi, A and Neilson, C J (Eds) Proceedings of the 38th Annual ARCOM Conference, 5-7 September 2022, Glasgow, UK, Association of Researchers in Construction Management, 307-316.

- Б.И.Исмоилов, Э.Ф.Гадоев. Коррупция тушунчаси ва унга қарши курашишга оид атамалар изоҳли луғати. – Тошкент: “Тафаккур” нашриёти, 2019. – 186 б.
- Emmanuel Kingsford Owusu<sup>1</sup>, Albert P. C. Chan, Ming Shan. Causal Factors of Corruption in Construction Project Management: An Overview. *Science and Engineering Ethics* · February 2019. DOI: 10.1007/s11948-017-0002-4
- Kim, Soo Yong, Kiyanoosh Golchin Rad. Exploratory Factor Analysis of the Causes of Corruption in Iranian Construction Projects. *Journal of the Korean Society of Civil Engineers*.Vol. 38, No. 2: 369-376/ April, 2018 (Online) DOI: <https://doi.org/10.12652/Ksce.2018.38.2.0369>
- Li-Ping Tang, T., Chen, Y. J., & Sutarso, T. (2008). Bad apples in bad (business) barrels: The love of money, Machiavellianism, risk tolerance, and unethical behavior. *Management Decision*, 46(2), 243-263.
- Ariani, V., Jumas, D, Y., Utama, W, P., & Wahyudi, W, W. (2023). "Indikator penyebab praktik korupsi pada industri konstruksi di sumatera barat. *Rekayasa Sipil*, 17 (1), 15-22.
- Kelly D. Martin, John B. Cullen. Continuities and Extensions of Ethical Climate Theory: A Meta-Analytic Review. *Journal of Business Ethics* (2006). DOI: 10.1007/s10551-006-9084-7 · Source: RePEc.
- Olusegun, A.E., Benson, A., Esther, I. and Michael, A.O., (2011). Corruption in the construction industry of Nigeria: Causes and solutions. *Journal of Emerging Trends in Economics and Management Science*, 2(3), pp.156–159
- Mart, F., & Sabrina (2023). Servant leadership and corruption intention in construction companies: role of ethical climate and Machiavellianism. *Psychology Research on Education and Social Sciences*, 4(2), 28-38. <https://www.weforum.org/agenda/2016/02/why-is-the-construction-industry-so-corrupt-and-what-can-we-do-about-it/>
- M.Sohail (ASCE member) and S. Cavill. Accountability to prevent corruption in construction projects. September 2008. *Journal of Construction Engineering and Management* 134(9)
- S. Z. S. Tabish, Kumar Neeraj Jha. Important Factors for Success of Public Construction Projects. September 2011 Conference: 2nd Interational Conference on Construction and Project Management. At: Singapore. Volume: IPEDR vol.15 (2011)
- Noonan, J. (1984). *Bribes*, Macmillan Publishing Company, New York.
- Albert P. C. Chan and Emmanuel Kingsford Owusu. *Corruption Forms in the Construction Industry: Literature Review*. *Journal of Construction Engineering and Management*, August 2017. DOI: 10.1061/(ASCE)CO.1943-7862.0001353
- Kim, Soo Yong, Kiyanoosh Golchin Rad. Exploratory Factor Analysis of the Causes of Corruption in Iranian Construction Projects. *Journal of the Korean Society of Civil Engineers*.Vol. 38, No. 2: 369-376/ April, 2018 (Online) DOI: <https://doi.org/10.12652/Ksce.2018.38.2.0369>
- Barco, A. L. (1994). “International expansion, ethics, and prohibited foreign trade practices.” *J. Manage. Eng.*, 10(5), 34–40. Crossref.
- Shakantu, Winston. Corruption in the construction industry: Forms, susceptibility and possible solutions. *Civil Engineering: Magazine of the South African Institution of Civil Engineering; Yeoville* Vol. 14, Iss. 7, (Jul 2006): 43-44,47.
- Vee, C. and Skitmore, R.M. (2003) Professional ethics in the construction industry. *Engineering Construction and Architectural Management* 10(2): pp. 117-127.
- Paul Bowen, Akintola Akintoye, Robert Pearl, Peter J. Edwards. Ethical behaviour in the South African construction industry. *Construction Management and Economics* Volume 25, 2007. Pages 631-648.
- Anna Zarkada-Fraser & Martin Skitmore, Decisions with moral content: collusion. *Construction Management and Economics* Volume 18, 2000 - Issue 1. Pages 101-111.
- “Fraud 101: What is Fraud?” <https://www.acfe.com/fraud-resources/fraud-101-what-is-fraud/>. “Occupational Fraud 2022: A Report to the Nations.” The Association Of Certified Fraud Examiners, 2022. <https://aca.uz/en/article/qurilish-va-uy-joy-kommunal-xojaligi-vazirligida-korrupsiyaga-qarshi-kurashish-faoliyati-samaradorligi-tahlil-qilindi>
- Chan, A. P., & Owusu, E. K. (2017). Corruption forms in the construction industry: Literature review.*Journal of Construction Engineering and Management*, 143(8), 04017057. International Federation of Consulting Engineers (FIDIC).(2016). Business integrity, corruption.Available <http://fidic.org/node/748>.