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Unethical practices and organizational resilience in construction companies: Perspectives from senior executives

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Abstract
This paper investigates the intricate relationship between unethical practices and the organizational resilience of construction companies.
Authors analyzed the data from semi-structured interviews and surveys with senior managers of large construction companies, as well as theoretical perspectives from the literature. Through a mixed-methods approach, the study explores the impact of unethical behavior on various dimensions of organizational resilience.
The findings of the study reveal the detrimental consequences of unethical practices on the financial, operational, reputation, and stakeholder aspects of organizational resilience within the construction industry. Factors contributing to the prevalence of unethical practices in this sector include a lack of ethical leadership, personal gain motivations, inadequate training, pressure to expedite projects, and a perception of impunity.
Senior managers participating in interviews generally agree that unethical practices have a negative impact, the distinctive nature of construction work may, at times, create situations that seemingly justify unethical behavior in practice.
By integrating ethical principles into the organizational culture, construction companies can effectively respond to and recover from disruptions, maintain trust and reputation, and foster sustainable relationships with stakeholders.

Keywords
Codes of conduct, Construction industry, Ethical leadership, Organizational resilience, Unethical practices.

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1. Introduction

The construction industry has long been marred by concerns of unethical practices, ranging from bribery and corruption to the use of substandard materials and unsafe working conditions (Challender, 2022; Monteiro et al., 2020). Such practices not only tarnish the industry's reputation but also jeopardize the resilience of construction companies, which play a pivotal role in maintaining the stability of the industry. The construction industry presents an ideal setting for ethical dilemmas due to its emphasis on low prices, intense competition, and narrow profit margins (Abdul-Rahman et al., 2007).

Unethical conduct may occur at various stages of a construction project, spanning from planning and design to pre-qualification and tendering, and from project execution to operation and maintenance. These practices can lead to the delivery of projects that are deemed unnecessary, unsuitable, excessively complex, overpriced, or delayed upon completion (Abdul-Rahman et al., 2007). In this context, understanding the intricate relationship between unethical practices and the organizational resilience of construction companies is of paramount importance.

1.1. Aim and objectives

This research aims to illuminate the effects of unethical practices on the organizational resilience of construction companies. The intricate relationship between ethics (Kuçuradi, 2023; Challender, 2022; Adams, 2022; Vee & Skitmore, 2003; Forister, 2003) and organizational resilience (Banahene-Blay et al., 2014; Yang & Cheng, 2020; Sapeciay et al., 2019; He et al., 2017; Whitehill & Ainsworth, 2018; Sapeciay et al., 2017; Zhu, 2016) in the construction industry is a crucial issue. It aims to explore the relationship between unethical behavior and various dimensions of resilience in the construction industry.

To achieve this objective, the following research questions will be addressed:

- What are the significant unethical practices in the construction industry that affect the organizational resilience of construction companies?
- What are the significant factors contributing to unethical behavior in the construction industry?
- How do unethical practices in the construction industry impact the organizational resilience of construction companies?
- What are the effects of unethical practices on different dimensions of resilience?

By addressing these research questions, this study aims to contribute to the understanding of the complex interplay between unethical practices and the organizational resilience of construction companies.

The primary objective is to raise awareness of how unethical practices in the construction sector impact organizational resilience. By emphasizing this relationship, the study aims to help construction companies enhance their ability to respond to and recover from disruptions, maintain trust and reputation, and build sustainable relationships with stakeholders through the integration of ethical principles into their corporate culture. This insight will serve as a significant contribution to the construction industry, helping companies strengthen their resilience and long-term success.

1.2. Research gap

The unique contribution of this research lies in its investigation of the relationship between unethical practices and organizational resilience, a connection that has not been extensively explored in the existing literature. The purpose of this study is not to simply investigate unethical behaviors in the construction sector, but rather to explore how these unethical practices influence the organizational resilience of construction companies. While the topic of unethical practices in construction has been extensively studied, with numerous comprehensive articles published, we found a gap in the literature regarding the connection between these practices and organizational resilience.

1.3. Scope and methodology

Unethical behavior should be understood as practices that deviate from the generally accepted "code of

practices" within the industry. The term 'ethics' is used to denote a set of written norms created by a group of people for specific purposes. These documents or codes consist of norms selected from existing or derived norms, agreed upon mutually, and intended to be universally validated. However, these norms are often not philosophically evaluated, comprising norms that may or may not be universal (Kuçuradi, 2023). The absence of universal agreement on these rules of practice highlights the open nature of professional ethics to debate and development.

The study employed mixed methods, including a literature review, semi-structured interviews, and surveys (Figure 1).

The research primarily relies on data obtained from interviews with senior managers of construction companies and the surveys they completed. Additionally, significant articles and books on unethical practices in the construction industry were reviewed. Literature reviews by Monteiro et al. (2020), Ho (2011), Chan & Owusu (2017), and Monahan (2012) provide significant contributions to this area.

Semi-structured interviews with senior managers provided valuable insights into unethical behavior, the challenges it creates for companies, and the strategies employed to build resilience. The interview data were analyzed using the Grounded Theory methodology (Glaser & Strauss, 1967), which allowed themes and patterns to emerge naturally from the narratives of industry leaders. Grounded Theory develops theories directly from participant data rather than testing pre-existing frameworks, making it especially relevant for studies on organizational resilience. Given the absence of a universally accepted framework in this area, and despite numerous literature reviews on resilience models, no single model specifically addresses the link between unethical practices and resilience in organizations. Thus, Grounded Theory was chosen as the most suitable approach to generate new insights on this complex and underexplored relationship.

In interviews, senior managers evaluated unethical practices and approaches to reduce these practices from different perspectives. A total of 27 se-

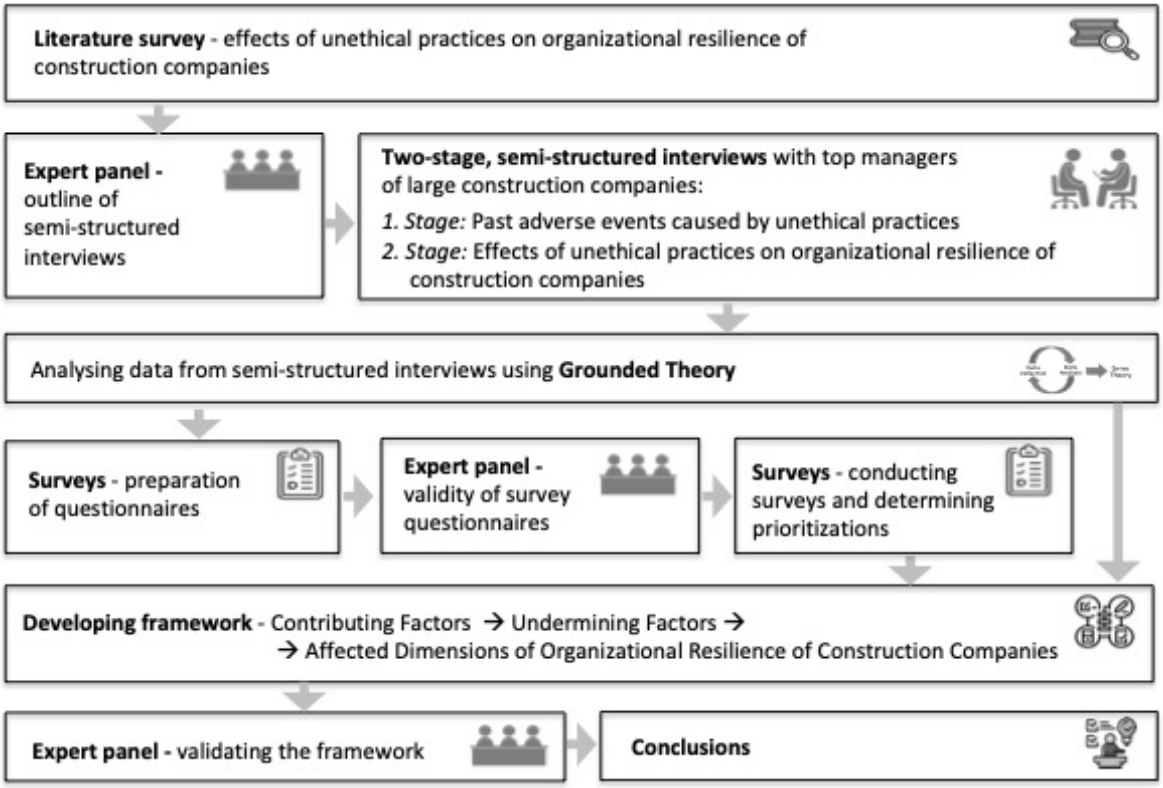

Figure 1. *Research methodology used in developing a framework for the effects of unethical practices on the organizational resilience of construction companies.*

nior managers from 17 major construction companies in Türkiye participated in the semi-structured interviews. Participants have 26 - 43 years of work experience. All of them are university graduates and have worked as senior managers both at home and abroad. Participants' positions and work experiences are presented in Table 1.

The questionnaires were developed after completing the semi-structured interviews, with data from these interviews guiding the survey's design. Participants evaluated three key areas on a 5-point Likert scale: the frequency of encountering unethical practices (first survey), the severity of their negative impact on company resilience (second survey), and the significance of factors contributing to unethical behavior (third survey) within the construction industry context. The survey design was informed by interview data and further refined through relevant academic literature. A comprehensive search of established journal databases was conducted, prioritizing high-quality studies on unethical practices and organizational resilience in construction companies. The survey was conducted in October 2023. Out of the 27 senior executives who previously participated in the semi-structured interviews, 19 completed the survey. The face validity of the questionnaires was evaluated by an expert panel consisting of four senior managers who also participated in the survey. They assessed the questionnaires for clarity, style, ease of understanding, and organization. To determine the reliability of the survey results, the Cronbach's Alpha coefficient was calculated, confirming the consistency of the findings.

Participants were tasked with conducting evaluations, considering all the locations where their business operations take place. The majority of the companies involved in the study, specifically 15 out of the 17, are medium to large-scale enterprises that have successfully executed significant projects worldwide. Consequently, it is plausible to infer that the research findings may transcend the boundaries of Türkiye and offer insights into the global construction industry.

The interviews were conducted in two stages:

a. In the first stage, top managers were asked to recall negative events they experienced in the past and describe their actions before, during, and after these events in their construction projects. Some events highlighted failures to comply with ethical rules, while in others, ethical rules had to be

Table 1. *Participants' positions and work experiences.*

	Positions		Number of Participants	
			Interviews	*Surveys*
1	Assistant General Manager	*Active*	6	4
2	Company Owner	*Active*	4	3
3	Projects Coordinator	*Active*	3	3
4	General Manager	*Active*	2	1
5	Project Manager	*Active*	2	1
6	President	*Active*	1	1
7	Executive Board Member	*Retired*	1	1
8	Consultant	*Active*	1	1
9	Project Director	*Retired*	1	0
10	Transformation Director	*Active*	1	0
11	Construction Manager	*Active*	1	1
12	Design Director	*Active*	1	1
13	Logistics Director	*Active*	1	1
14	Quality Coordinator	*Active*	1	0
15	HSE Director	*Active*	1	1
	Total		27	19

	Work Experiences (Years)	#
1	26 - 30	4
2	31 - 35	11
3	36 - 40	7
4	41 - 45	5
	Total	27

disregarded during absorption and recovery. Twenty-seven senior managers participated in this stage.

b. In the second stage of the interviews, senior managers were asked to evaluate the impact of complying/non-complying with universal ethical rules on the organizational resilience of the companies. Twenty-three senior managers participated in this stage.

2. Unethical practices in the construction industry

The construction industry, despite its indispensable role in society's development, has not remained immune to unethical practices. These practices manifest in various forms, including bribery, corruption, bid rigging, substandard materials usage, safety violations, and environmental negligence, etc. For instance, bribery involves offering financial incentives to influence decisions, such as obtaining contracts or permits. Bid rigging pertains to collusive behavior among competitors to manipulate bidding processes, compromising fair competition (Challender, 2022). Similarly, using substandard materials and compromising safety protocols to cut costs directly jeopardizes the well-being of workers and the integrity of constructed facilities (Monteiro et al., 2020).

2.1. The cases

The cases emerged during semi-structured interviews with top managers of large construction companies registered in Türkiye. In the initial phase of these interviews, participants were asked to describe negative events they had experienced, which were then analyzed through the lens of organizational resilience. Several incidents exemplifying unethical practices were documented in the article. The most noteworthy cases, drawn from the adverse events shared by the participants, are highlighted below:

Case 1: Power struggles among top managers, characterized by unethical behavior, resulted in significant losses for the project.

Case 2: The contractor incurred financial losses due to unethical practices and demands imposed by the employer's representative during the project's delivery phase.

Case 3: Unethical conduct by the local administration, acting as the employer, regarding matters such as price adjustments and timely payment of work progress, along with unethical hindrances from the central administration in securing additional financing for the local administration, led to project delays and financial losses for the contractors.

Case 4: Changes in the construction method in a bridge construction project due to discrepancies between the actual and specified river flow values. The employer's refusal to acknowledge this as a valid reason for time extension and cost increases cannot be deemed ethical.

Case 5: The employer's unethical conduct, involving a refusal to grant a price increase when variations in ground conditions were identified compared to what was stipulated in the contract, led the employer to outsource the same work to another contractor at a significantly higher cost.

Case 6: Although facilitation payments made to the hospital management to reserve a place in a nearby hospital for personnel who fell ill at the construction site during the COVID-19 epidemic were unethical, the results were positive.

Case 7: Although facilitation payments made to local officials during the evacuation of personnel while the war was ongoing were unethical, the results were positive.

Unethical behaviors, ranging from power struggles among top managers to refusals of valid claims, resulted in significant losses and challenges in construction projects. Simultaneously, some facilitation payments, though deemed unethical, yielded positive outcomes during critical situations. These examples substantiate the participants' perspectives on the situational nature of ethics.

2.2. Unethical practices

The list of unethical practices in the construction industry, primarily compiled based on information obtained from interviews, is presented

Table 2. *Unethical practices in construction industry (in alphabetical order).*

1	Bid Rigging	Colluding with competitors to manipulate bidding processes, limiting fair competition.
2	Bribery and Corruption	Offering money, gifts, or favors to gain favorable treatment, secure contracts, or manipulate decision-making.
3	Conflicts of Interest	Concealing personal or financial interests that could influence impartial decision-making.
4	Environmental Violations	Ignoring environmental regulations, such as improper waste disposal, resulting in harm to the environment.
5	False Documentation	Providing falsified documents, certifications, or test results to meet regulatory requirements or secure approvals.
6	Kickbacks	Providing incentives or financial rewards to individuals involved in the awarding of contracts.
7	Labor Exploitation	Exploiting workers through underpayment, poor working conditions, and lack of safety measures.
8	Lack of Transparency	Withholding important project information from stakeholders, leading to misinformed decisions.
9	Late Payments	Deliberately delaying payments to subcontractors or suppliers, impacting their financial stability.
10	Overbilling and Fraud	Inflating project costs or billing for work not performed, leading to financial losses for clients.
11	Substandard Materials and Workmanship	Using low-quality materials or cutting corners in construction to save costs, compromising project safety and quality.
12	Unethical Advertising	Misleading or false advertising to secure projects by misrepresenting company capabilities.
13	Unfair Contract Terms	Imposing one-sided or unfair terms on subcontractors or suppliers in contracts.
14	Unsafe Practices	Ignoring safety regulations, which can result in accidents, injuries, and fatalities on construction sites.

in Table 2. To create the list, articles by researchers such as Chan & Owusu (2017), Vee & Skitmore (2003) , Abdul-Rahman et al. (2007), Bowen et al. (2007), Moodley et al. (2008), Fan & Fox (2009), Hamimah et al. (2011), Gündüz & Önder (2012), Abdul-Rahman et al. (2010), Mukumbwa & Muya (2013), Shah & Alotaibi (2017), Zulkifli et al. (2019), Monteiro et al. (2020), Bimbola et al. (2020); Abdulazeez et al. (2021) and, Amoah & Steyn (2022) were also consulted. It encompasses unethical practices that participants deemed significant and should not be regarded as exhaustive.

2.2.1. Frequency of occurrence

Arranging unethical practices in the construction industry by their frequency of occurrence provides a crucial indication of the industry's general operation. Senior managers participating in the research were asked to assess the frequency of these practices. In the survey, participants rated the frequency of encountering unethical practices on a five-point Likert scale (1 = very rare, 5 = very frequent), considering the industry as a whole. The survey results are outlined in Table 3.

The fact that Environmental Violations ranks first provides insight into the construction industry's perspective on environmental protection. It can also be considered an indicator of the negligence and impunity surrounding this issue (Irumba & Mwakali, 2007).

The second category, Late Payments, suggests an imbalance of power among industry players and indicates that legal mechanisms may not function as intended. This finding also signals financial challenges within the sector, possibly arising from contractors' efforts to finance their work for varying durations, a practice that has become a tradition or perhaps even a rule in the construction industry (Peters et al., 2019).

Unfair Contract Terms, ranking third in frequency, signifies the existence and helplessness of sector actors willing to accept unfair contract terms, highlighting a power imbalance.

Unsafe Practices, in fourth place, is significant in portraying risk perception in the construction industry and the value (or lack thereof) placed on people. Substantial progress is needed in this regard.

Table 3. *Survey results of occurrence frequency of unethical practices in the construction industry (n = 19, Cronbach's Alpha = 0,9522).*

No	Unethical Practices	Frequency (5-point scale)	Variance
1	Environmental Violations	3,42	2,15
2	Late Payments	3,37	1,69
3	Unfair Contract Terms	3,26	2,20
4	Unsafe Practices	3,16	1,70
5	Kickbacks	2,95	1,83
6	Bribery and Corruption	2,84	2,25
7	Substandard Materials and Workmanship	2,84	1,36
8	Labor Exploitation	2,84	1,70
9	Lack of Transparency	2,74	1,98
10	Conflicts of Interest	2,53	1,04
11	Unethical Advertising	2,47	2,15
12	Bid Rigging	2,37	1,69
13	Overbilling and Fraud	2,21	0,84
14	False Documentation	1,89	0,99

Kickbacks, ranking fifth, and Bribery and Corruption, following closely, point to diverse dynamics in the awarding and completion of projects. These dynamics can create an environment conducive to inflated prices, Use of Substandard Materials and Workmanship, and result in subpar quality.

Labor Exploitation, in eighth place, alongside Unsafe Practices in fourth place, underscores the value (or lack thereof) attributed to people in the sector and reflects the industry's stance on human rights.

Lack of Transparency, Conflicts of Interest, Unethical Advertising, Bid Rigging, Overbilling and Fraud, and False Documentation rank lower in frequency.

It's important to note that since the respondents to this survey are senior managers, a potential bias arising from this situation may influence the results.

2.2.2. Impacts

The significance ranking (effects) of unethical practices in the construction industry was assessed by the senior managers participating in the research, and the survey results are detailed in Table 4.

In terms of the effects of unethical practices on companies in the construction industry, Substandard Materials and Workmanship claims the top spot. Participants concur that companies engaging in this practice may incur losses through severe penalties, loss of repeat business, and damage to their reputation.

False Documentation, ranking second, can inflict serious harm on companies, akin to the practice in the first position.

The third effect of Labor Exploitation on companies involves difficulties in finding personnel to employ, low productivity of dissatisfied personnel, and potential sabotage of the business, resulting in significant damage.

Accidents resulting from Unsafe Practices, ranked fourth, lead to both human and property losses.

Conflicts of Interest, ranking fifth, prompt personnel to make decisions detrimental to the company due to conflicts of interest. Even if one of the employees gains in these conflicts, the company consistently ends up as the loser.

Unfair Contract Terms, ranking sixth, negatively affects both the party being coerced and the coercing party. The coerced party, despite performing strenuous work, does not receive due compensation. The coercing party struggles to find a contractor to complete the work and, when they do, encounters issues of low quality and compromised safety, resulting in significant losses.

Table 4. *Results of the importance ranking survey of unethical practices in the construction sector (n=19, Cronbach's Alpha = 0,9174).*

No	Unethical Practices	Impact (5-point scale)	Variance
1	Substandard Materials and Workmanship	4,26	0,76
2	False Documentation	4,21	0,62
3	Labor Exploitation	4,16	0,31
4	Unsafe Practices	4,11	0,99
5	Conflicts of Interest	4,00	1,11
6	Unfair Contract Terms	4,00	0,78
7	Lack of Transparency	3,95	1,05
8	Late Payments	3,95	0,83
9	Bid Rigging	3,89	1,10
10	Overbilling and Fraud	3,89	1,77
11	Bribery and Corruption	3,84	1,36
12	Environmental Violations	3,74	1,32
13	Kickbacks	3,68	1,23
14	Unethical Advertising	3,47	0,82

It is noteworthy that Environmental Violations rank twelfth. This suggests that companies experience minimal damage from environmental violations, indicating a lack of comprehensive understanding of the environmental issue across the country. Additionally, governments demonstrate limited willingness and success in implementing adequate measures in this regard.

2.2.3. Differences between frequency and impact rankings

When examining the survey results, differences between the frequency and impact rankings of unethical practices in the construction industry are observed in all practices except one.

Environmental Violations, Commissions, Late Payments, Bribery and Corruption, and Unfair Contract Terms are at the top in terms of frequency and at the bottom in terms of impact. This suggests a possible cause-effect relationship. The fact that these practices have low negative effects on construction companies or that their benefits outweigh their negative effects may explain the increased frequency of these practices.

Improper Documentation, Substandard Materials and Workmanship, Conflicts of Interest, Labor Exploitation, Overbilling and Fraud, Bid Rigging, and Lack of Transparency top the list of impacts but are rated lower in terms of incidence. The fact that these practices have high negative effects on construction companies or that their benefits are less than their negative effects may explain the decrease in their frequency.

2.2.4. Risks

These unethical practices have cascading effects that erode the foundations of the industry. They undermine trust, create distrust, and impede progress. The prevalence of such practices requires a comprehensive understanding of their origins and impacts to ensure the long-term sustainability and resilience of construction companies.

Evaluating the results of frequency and importance (impact) studies together can give an idea about the risks of unethical practices in the construction industry.

An indicator of risk can be defined as a function of normalized frequency and impact ratings (Ri=SQR[fN(Fi)*fN(Ii)]), the square root of the product of normalized frequency and normalized impact) The ranking obtained from such a definition is shown in Table 5. The values here should be considered as a relative ranking value among unethical practices rather than an absolute indicator of risk.

As a result of the evaluation of the data obtained from the surveys, late payments, unsafe practices, unfair contract terms, environmental violations, non-standard materials, and labor exploitation take the first place and

Table 5. *Risks associated with unethical practices in the construction sector (n=19).*

No	Unethical Practices	Risk Rating
1	Late Payments	7,87
2	Unfair Contract Terms	7,80
3	Unsafe Practices	7,77
4	Environmental Violations	7,72
5	Substandard Materials and Workmanship	7,52
6	Labor Exploitation	7,42
7	Bribery and Corruption	7,13
8	Kickbacks	7,11
9	Lack of Transparency	7,10
10	Conflicts of Interest	6,86
11	Bid Rigging	6,56
12	Overbilling and Fraud	6,33
13	Unethical Advertising	6,33
14	False Documentation	6,10

form the first group (Figure 2). Late payment and underpayment practices, supported by unfair contract terms, have evolved into the paramount duty of numerous "respectable" owners and the international consultancy virtuosos who eloquently represent them. These practices pose a significant risk to the construction industry on both international and national fronts. The events that top managers participating in the research gave as examples of the negative events they experienced support this situation (see Cases).

The fact that these two factors come first in the evaluations of top managers indicates that it has become challenging for contractor construction companies to address these unethical practices merely by doing the work in accordance with the contract conditions. This poses a real resilience test for construction companies.

Studies conducted across several countries, including Singapore (Lip, 2006), Malaysia (Sin, 2006), China (Wu, 2008), Australia (Brand & Uher, 2010), Hong Kong (Cheng et al., 2010), Ghana (Ansah, 2011), New Zealand (Ramachandra & Rotimi, 2015), Trinidad (Peters et al., 2019), and the UK (Bolton et al., 2022), have addressed issues related to delays and nonpayment of funds owed to contractors.

Senior managers participating in the research state that many large construction companies engaged in international business have chosen not to bid on projects involving such owners and consultancy companies. They added that although the unethical practices of regimes in some countries provide opportunities for some construction companies, they also cause some construction companies to decide not to do business in these geographies.

In the first group, unethical practices related to contractor construction companies—unsafe practices (Choudhry & Fang, 2008) , environmental violations, non-standard materials, and workmanship—indicate the risk of not doing the job properly. It may not be clear whether this developed as a response to late payments and unfair contract terms or vice versa. Incompetence in both the contractor companies and the controlling organizations may be effective here. On the other hand, if this is a conscious practice, the gain from not doing things right also encourages the unethical practices in the second group.

The second group includes kickbacks, bribery and corruption, lack of transparency, conflicts of interest, bid rigging, overbilling, and fraud (Figure 2).

The third and final group includes unethical advertising and false documentation.

As a result of research conducted by various scholars such as Bowen et al., 2007; Abdul-Rahman et al., 2007; Ayodele et al., 2011; Hamimah et al., 2011;

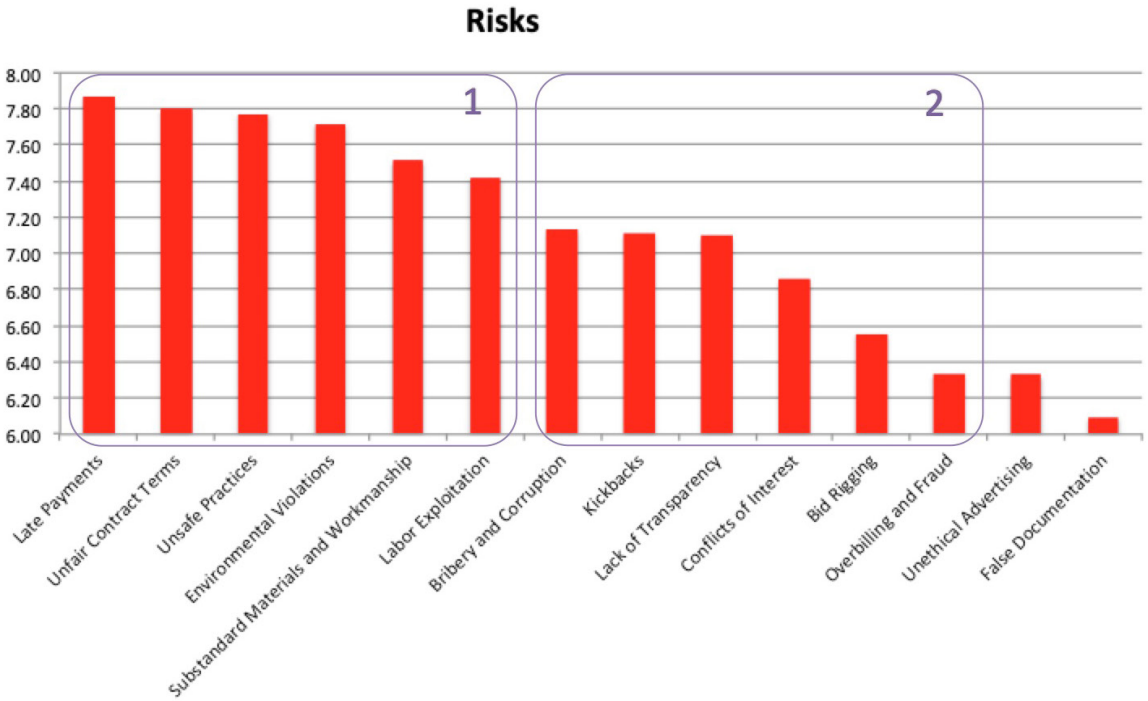

Figure 2. *Risks of the construction sector caused by unethical practices (n=19).*

Gündüz & Önder, 2012; Mukumbwa & Muya, 2013; Chan & Owusu, 2017; Dalyop et al., 2017; Shah & Alotaibi, 2017; Zhang et al., 2017; Zulkifli et al., 2019; Zulu & Muleya, 2019; Bimbola et al., 2020; Abdulazeez et al., 2021; Amoah & Steyn, 2022, unethical practices in the second group have generally been deemed significant. Practices in the first group were either not mentioned at all or were not prioritized.

The practices of construction companies cannot be considered independent of the conditions and dynamics of the geographies, countries, and cultures in which they operate. Most of the studies in the literature have evaluated the situation in a particular country. The results of these studies can be considered country-dependent. In this research, however, the perspectives of senior managers from construction companies engaged in international projects across diverse regions were considered. Although these companies are registered in a single country, the findings are far from being exclusive to that particular country.

In addition, unlike others in this research, only the opinions of senior managers and company owners who are primarily responsible for the resilience of the companies were taken, which ensured that the results were resilience-oriented.

2.3. Factors contributing to unethical behavior

Unethical practices within the construction industry can be attributed to a complex interplay of internal and external factors. High-pressure environments, intense competition, and the intricate regulatory frameworks governing construction projects can collectively create an environment conducive to unethical behavior. The desire to secure contracts, meet deadlines, and maximize profits can create temptation, particularly when coupled with inadequate oversight and accountability mechanisms (Bimbola et al., 2020; Al-Sweity, 2013).

The fragmented nature of the industry, characterized by the involvement of numerous stakeholders, can further contribute to ethical lapses. The complexity of project structures and the multiplicity of actors involved can result in blurred lines of responsibility and ownership. This can provide a cover for unethical conduct to go unnoticed or unaddressed.

Additionally, the absence of standardized ethical guidelines and industry-wide codes of conduct may inadvertently perpetuate a culture that tolerates certain unethical practices (Mason, 2009). The absence of a strong ethical compass can normalize behavior that otherwise contradicts accepted

ethical norms (McCarthy, 2012; Erbaş, 2018).

The compilation of factors contributing to unethical behavior in the construction industry, primarily derived from interview data, is presented in Table 6. Additionally, relevant literature such as Abu Hassim et al. (2010), Usman et al. (2012), Bimbola et al. (2020), Challender (2022) and, Bainbridge (2022) was consulted in formulating this list.

Factors contributing to unethical behavior were evaluated by senior managers participating in the research. The survey results are in Table 7.

According to the results of this survey, the factors listed in order of importance can be explained and interpreted as follows:

The results of the survey on factors contributing to unethical behavior in the construction industry provide valuable insights into the challenges faced by the sector.

Lack of ethical leadership emerged as the most critical factor, emphasizing the pivotal role leaders play in shaping organizational ethics. When leaders fail to set a strong ethical tone, it permeates the entire organization, leading to a cascade of unethical practices (Monahan, 2012; Mihelic et al., 2010). Lack of ethical leadership in senior management can send the message that ethical behavior is not a priority, creating an environment where ethical behavior is not prioritized.

Personal gain ranked second, underscoring the individual motivations that can drive unethical behavior. In a competitive industry where financial success is often a powerful incentive, personal gain can overshadow ethical considerations (Kish-Gephart et al., 2014; Muldera et al., 2020). This finding suggests a need for a cultural shift that aligns individual interests with ethical conduct, emphasizing the long-term benefits of integrity. When personal gain is at stake in a business, it not only becomes easier for people to engage in unethical behavior but also becomes an important source of motivation. Personal financial gain, career advancement, or personal gain may drive individuals to engage in unethical practices for short-term gain.

Inadequate training and pressure for speed occupied the third and fourth positions, respectively. These results highlight systemic issues within the industry. Insufficient training may lead to a lack of comprehension of the consequences of unfair gain and improperly done work. The lack of training and awareness regarding ethical standards and guidelines can result in employees and management mistakenly making decisions that violate ethical boundaries. Inadequate training may contribute to a lack of awareness about ethical standards and best practices, while the pressure for speed can create an environment where corners are cut to meet tight deadlines. Under pressure for speed, things may not be done as they should be, as strict deadlines in construction projects can lead to compromises in safety and quality standards. Addressing these factors necessitates comprehensive strategies, including robust training programs and realistic project timelines.

Perceived impunity and lack of oversight ranked fifth and sixth, shedding light on the importance of accountability structures. When individuals believe they can act with impunity, ethical considerations may take a back seat. Even if the consequences are known, a perception of impunity eliminates a significant obstacle to unethical behavior. Strengthening oversight mechanisms and ensuring swift consequences for unethical actions can act as deterrents. The lack of oversight can make a person feel free, and with this freedom, unethical behavior may have no limits (Hoseah, 2014).

The survey results also draw attention to the role of industry standards. Weak industry ethical standards are not robust enough to encourage and guide ethical behavior. The weakness in ethical standards suggests a need for industry-wide initiatives to establish and promote ethical guidelines. When there is a lack of transparency in the environment, ethical behavior becomes a sought-after and longed-for quality.

Additionally, subcontractor relationships, cultural and normative factors, and limited alternatives feature lower in the ranking, indicating that

Table 6. *Factors contributing to unethical behavior in costruction industry (in alphabetical order).*

1	Complex Project Structures	The intricate and multi-tiered structure of construction projects involving contractors, subcontractors, and suppliers can create confusion regarding responsibilities and accountability, enabling unethical practices to go unnoticed.
2	Complex Regulatory Environment	Navigating intricate and constantly changing regulations can lead to frustration, encouraging shortcuts to expedite compliance.
3	Crisis Situations	High-stress situations, such as project delays or unexpected challenges, can increase the temptation to resort to unethical practices as a quick fix.
4	Cultural and Normative Factors	Prevailing attitudes and practices within a specific construction culture can normalize certain unethical behavior, making it harder to identify and address.
5	Financial Pressures	Tight profit margins, project cost overruns, and delays can push construction companies to resort to unethical practices to cut costs and meet financial targets.
6	Inadequate Training	Insufficient training and awareness about ethical standards and guidelines can result in employees and management making decisions that inadvertently breach ethical boundaries.
7	Inadequate Whistleblower Protection	Absence of robust protection for individuals who report unethical behavior can deter individuals from speaking up due to fear of retaliation.
8	Intense Competition	The highly competitive nature of the construction industry can lead to a race to secure contracts and projects. This pressure can encourage unethical behavior such as bid rigging and undercutting competitors, compromising fair competition.
9	Lack of Clear Communication	Poor communication between project stakeholders can result in misunderstandings and disagreements that may lead to unethical behavior.
10	Lack of Ethical Leadership	Absence of ethical leadership from top management can send a message that ethical behavior is not a priority.
11	Lack of Oversight	Inadequate regulatory oversight and enforcement can create an environment where unethical behavior can thrive without fear of consequences.
12	Lack of Transparency	Opacity in financial transactions, contracts, and decision-making can create an environment where unethical conduct can go undetected.
13	Limited Alternatives	In certain regions or during economic downturns, limited job opportunities can push individuals towards unethical practices to secure their livelihoods.
14	Perceived Impunity	A perception that unethical practices often go unpunished or are part of the norm within the industry can embolden individuals to engage in such behavior.
15	Personal Gain	Individual financial gain, career advancement, or personal interests can drive individuals to engage in unethical practices for short-term benefits.
16	Poorly Defined Roles and Responsibilities	Unclear delineation of responsibilities and authority can lead to blurred lines, facilitating the occurrence of unethical practices.
17	Pressure for Speed	Construction projects often have strict deadlines, which can lead to corner-cutting, compromising safety and quality standards.
18	Pressure from Stakeholders	Demands from clients, investors, and shareholders for rapid returns on investment can push companies to compromise ethical standards to meet these expectations.
19	Subcontractor Relationships	Lack of transparency and accountability in subcontractor relationships can lead to unethical practices being overlooked or indirectly endorsed.
20	Weak Industry Ethical Standards	A lack of universally accepted ethical standards within the industry can result in a tolerance for certain unethical practices.

Table 7. *Survey results of the factors contributing to unethical behavior in the construction sector (n=19, Cronbach's Alpha = 0,6578).*

No	Factors	Importance (5-point scale)	Variance
1	Lack of Ethical Leadership	4,47	0,37
2	Personal Gain	4,26	0,54
3	Inadequate Training	4,21	0,40
4	Pressure for Speed	4,21	0,62
5	Perceived Impunity	4,16	0,19
6	Lack of Oversight	4,11	0,43
7	Weak Industry Ethical Standards	4,00	0,67
8	Lack of Transparency	3,95	0,61
9	Subcontractor Relationships	3,84	0,58
10	Cultural and Normative Factors	3,79	0,73
11	Limited Alternatives	3,74	0,98
12	Intense Competition	3,63	1,13
13	Poorly Defined Roles and Responsibilities	3,63	0,91
14	Crisis Situations	3,58	0,70
15	Lack of Clear Communication	3,47	1,15
16	Pressure from Stakeholders	3,42	0,81
17	Financial Pressures	3,32	0,78
18	Inadequate Whistleblower Protection	3,26	1,20
19	Complex Project Structures	3,21	0,95
20	Complex Regulatory Environment	3,21	0,84

while these factors are relevant, they might be influenced by or interconnected with higher-ranked issues.

In conclusion, the survey outcomes provide a roadmap for targeted interventions. Focusing on ethical leadership, individual motivations, training, systemic pressures, and industry-wide standards can contribute to fostering a more ethical construction industry. Addressing these key areas will likely have a cascading effect, positively influencing other aspects of organizational conduct and resilience.

Subcontractor relationships, limited alternatives, poorly defined roles and responsibilities, lack of ethical leadership, cultural and normative factors, crisis situations, lack of clear communication, intense competition, pressure from stakeholders, financial pressures, complex project structures, inadequate whistleblower protection, and a complex regulatory environment can potentially justify almost any unethical behavior.

Efforts should be made to eliminate these contributing factors before expecting or demanding virtuous behavior from individuals.

3. Organizational resilience in the construction industry

Organizational resilience is the ability to survive a crisis and thrive in a world of uncertainty. Resilience is a strategic capability that goes beyond merely overcoming crises (Seville, 2008; McManus et al., 2007).

In the context of the construction industry, organizational resilience refers to a company's capacity not only to withstand and recover from challenges, disruptions, and uncertainties but also to thrive while maintaining its core functions and strategic objectives. It involves a holistic approach that encompasses various dimensions of a company's operations, management practices, and strategies (Wilkinson et al., 2016). Resilience is paramount in the construction industry due to its inherent challenges, including unpredictable weather conditions, regulatory changes, supply chain disruptions, and project complexities. Construc-

tion projects are susceptible to various external and internal factors that can disrupt operations and hinder project success (He et al., 2018). Organizational resilience ensures that construction companies can not only weather such challenges but also adapt and innovate to thrive in adversity (Sapeciay et al., 2017).

Moreover, the construction industry operates in a dynamic environment with evolving client expectations, technological advancements, and sustainability requirements. Companies that prioritize resilience can effectively navigate these changes and capitalize on emerging opportunities, positioning themselves to not only survive but to thrive in a competitive landscape (Sapeciay et al., 2019; Yang & Cheng, 2020).

4. Relationship between unethical practices and organizational resilience

The relationship between unethical practices and organizational resilience in the construction industry is complex and multifaceted. Unethical behaviors can be conceptualized as resilience underminers – actions that erode a company's capacity to adapt, respond, and recover effectively from challenges. While resilience is built upon factors such as leadership, risk management, and adaptability, unethical practices can act as counterforces, weakening these foundational elements.

4.1. Effects of unethical practices on organizational resilience

In the second part of the interviews, the myriad of perspectives offered by participants shed light on the complex relationship between ethics and organizational resilience in the construction industry.

The considerations and opinions expressed by the participants in semi-structured interviews were evaluated using "Grounded Theory." Initially, quotes from the interviews were selected, coded, and then the codes were grouped by associating them until the main idea(s) were reached.

Almost all participants agree on the need to behave ethically. However, the conversations start this way and then divide into three main groups of thought.

The first group of considerations underscores the critical nature of ethics, emphasizing its role as the foundation of a company's identity and resilience, urging against compromise. They highlight the positive impact of ethical behavior, including its alignment with company culture and its contribution to sustainability through values like justice and responsibility. Additionally, they stress the importance of fostering an ethical culture within the organization, which influences behavior and interactions with stakeholders. Furthermore, they assert that ethical practices are integral to enhancing a company's reputation and reliability, inseparable from sustainability efforts. Moreover, they caution against the gradual spread of unethical behavior within the company, affecting all operations and employee conduct, potentially leading to a struggle for survival. Finally, they acknowledge the potential consequences of unethical behavior, warning of its cascading effects.

The second group of considerations delves into geographic and contextual influences, elucidating how ethical norms can vary across different regions and cultures, and how project dynamics can impact ethical decision-making. It acknowledges the complexities surrounding ethical dilemmas, particularly under pressures for survival, and recognizes pragmatic considerations, such as commission payments to secure contracts. This perspective underscores the situationality of ethics, suggesting that universal values may not always apply universally in different contexts, and underscores the dynamic nature of ethical considerations within the construction industry. It emphasizes the importance of maintaining a balance to sustain relationships with various stakeholders and acknowledges the existence of practical thresholds for ethical behavior, which may be exceeded in certain circumstances. Additionally, it questions the compatibility of ethics within the capitalist framework, highlighting challenges in applying ethical principles within a competitive business environment.

The third group of considerations argues that ethical behavior has nothing to do with the resilience of construction companies. It states that acting unethically can sometimes be a necessity for the company to survive.

In light of these diverse viewpoints, it is evident that while ethical conduct aligns with resilience, its practical implementation faces intricate challenges. Balancing universal ethical values with regional norms, economic realities, and competitive pressures creates a complex ethical landscape. The insights from all participants underscore the multifaceted nature of ethical decision-making in the construction industry, emphasizing the need for companies to navigate these complexities diligently. By comprehensively understanding and addressing these nuances, construction companies can establish a resilient foundation that upholds both ethical values and operational longevity.

4.2. Mechanisms through which unethical practices adversely affect resilience

In the second part of the interviews, participants also evaluated how unethical practices affect the resilience of construction companies.

Participants stated that unethical practices mostly affect the resilience of construction companies indirectly. According to participants, unethical practices undermine the resilience of the company by adversely affecting organizational capacities such as trust, adaptability, talent, reputation, leadership, stakeholders, supply chains, innovation, resource allocation, and collaboration. These interconnected mechanisms play a crucial role in the existence and operation of companies, contributing to their overall resilience. This perspective emphasizes the cause-and-effect relationships between unethical practices and the key components that collectively shape a company's ability to withstand challenges and disruptions.

In semi-structured interviews with senior managers of construction companies, the prominent mechanisms through which unethical practices affect organizational resilience are: Erosion of Trust, Reduced Adaptability, Talent Drain, Legal and Reputational Risks, Undermined Leadership, Stakeholder Disengagement, Supply Chain Disruptions, Inhibited Innovation, Resource Misallocation, Reduced Collaboration.

4.2.1. Erosion of trust

Unethical practices leading to trust erosion diminish organizational resilience by undermining stakeholder confidence, reputation, and increasing legal risks, fostering a toxic culture, and depleting social capital (Jia, 2018). To fortify resilience, organizations should prioritize ethical behavior, foster trust-based relationships, promote transparency, and embed ethical values into their culture and decision-making processes, recognizing trust as a fundamental cornerstone in navigating today's intricate business landscape (Gustafsson et al., 2021).

4.2.2. Reduced adaptability

Unethical practices hindering adaptability weaken organizational resilience by impeding response to change, hindering learning and innovation, fostering resistance to organizational change, reducing agility and flexibility, and inflicting cultural and reputational harm. To bolster resilience, fostering a culture of ethical conduct, transparency, and openness that encourages learning, experimentation, and adaptability is essential, alongside promoting ethical leadership, empowering employees, and embracing change to thrive in dynamic and uncertain environments (Aldrich, 2012).

4.2.3. Talent drain

Unethical practices leading to talent drain weaken organizational resilience through the loss of intellectual capital, disrupted team dynamics, decreased employee engagement and loyalty, negative effects on organizational culture, and reputational harm (Pereira et al., 2019). To strengthen resilience, organizations should prioritize ethical leadership, cultivate integrity and transparency, and invest in employee development and well-being, thereby addressing the root causes of unethical behavior and fostering a values-driven culture to mitigate talent drain and

thrive in dynamic and competitive environments.

4.2.4. Legal and reputation risks

Legal and reputational risks arising from unethical practices threaten organizational resilience by harming reputation, trust, increasing regulatory scrutiny, financial costs, and competitive advantage. Prioritizing ethical conduct, regulatory compliance, and proactive reputation management is crucial for mitigating these risks, while fostering a culture of integrity, transparency, and accountability enhances resilience by safeguarding reputation, bolstering stakeholder trust, and fortifying defenses against external threats and uncertainties.

4.2.5. Undermined leadership

Unethical practices undermining leadership can weaken organizational resilience by eroding trust, fostering toxicity, reducing employee engagement, diminishing accountability, and straining stakeholder relationships (Mitchell et al., 2022). To bolster resilience, organizations should promote ethical leadership, cultivate integrity and transparency, reinforce accountability mechanisms, and rebuild stakeholder trust, thereby enhancing resilience to internal and external challenges, safeguarding reputation, and ensuring long-term success (Monahan, 2012; Mihelic et al., 2010).

4.2.6. Stakeholder disengagement

Stakeholder disengagement resulting from unethical practices can diminish organizational resilience by undermining trust, reputation, increasing legal risks, straining collaborative relationships, and lowering employee morale (Liu & Yin, 2020). To fortify resilience, organizations must prioritize ethical conduct, rebuild stakeholder trust, strengthen compliance mechanisms, foster collaborative partnerships, and cultivate a culture of transparency, integrity, and accountability, thereby addressing ethical lapses, restoring stakeholder trust, and aligning practices with ethical principles to enhance resilience to external pressures, protect reputation, and ensure sustained success.

4.2.7. Supply chain disruptions

Supply chain disruptions resulting from unethical practices can undermine organizational resilience by causing operational disruptions, reputation damage, legal risks, trust erosion, financial burdens, and supply chain instability (Ponomarov & Holcomb, 2009). To strengthen resilience, organizations should prioritize ethical conduct, promote transparency, accountability, and integrity within the supply chain, and actively manage risks associated with unethical behavior, fostering collaboration, communication, and a commitment to ethical values and responsible business practices across stakeholders.

4.2.8. Inhibited innovation

Unethical practices inhibiting innovation can weaken organizational resilience by curbing adaptability, problem-solving abilities, competitive advantage, trust, credibility, and causing inefficiencies. To bolster resilience, organizations should prioritize ethical leadership, cultivate transparency, accountability, empower innovation, and invest in research, development, and continuous learning initiatives to sustain growth and competitiveness.

4.2.9. Resource misallocation

Resource misallocation stemming from unethical practices can erode organizational resilience by diminishing efficiency, productivity, decision-making, trust, morale, financial stability, reputation, stakeholder confidence, and creating long-term strategic impacts (Wang et al., 2022). To fortify resilience, organizations should prioritize ethical leadership, foster transparency and accountability in resource allocation, and ensure strategic resource allocation aligns with the organization's mission, vision, and long-term sustainability goals.

4.2.10. Reduced collaboration

Unethical practices hindering collaboration can weaken organizational resilience by reducing knowledge sharing, impairing teamwork, weakening interdepartmental relationships,

undermining partnerships, alliances, and eroding organizational culture. To bolster resilience, organizations should prioritize ethical leadership, foster transparency, trust, collaboration, teamwork, and cultivate strong relationships with stakeholders based on mutual respect, integrity, and shared purpose.

As a result of these mechanisms, unethical practices can undermine a construction company's ability to anticipate, adapt to, and recover from disruptions. To counteract these negative effects, companies must acknowledge the detrimental impact of unethical practices on resilience and implement strategies to foster ethical behavior throughout the organization (Figure 3).

5. Effects of unethical practices on different dimensions of resilience

Unethical practices can have significant and diverse impacts on different dimensions of construction companies' resilience (Assarkhaniki et al., 2020; Banahene-Blay, 2017; Tengblad & Oudhuis, 2018; Grzegorz, 2022). Financial, operational, reputational, stakeholder, supply chain, innovative, and human capital resilience, along with adaptive capacity, risk, and crisis management, are the prominent dimensions among these.

Financial resilience denotes an organization's capability to endure and rebound from financial difficulties, but unethical behaviors like embezzlement or financial fraud can substantially erode financial stability, leading to immediate losses, legal ramifications, and hindrances in investing in growth, responding to economic downturns, and managing unforeseen financial hurdles (Salignac et al., 2019). Operational resilience pertains to an organization's ability to sustain smooth operations amidst disruptions, yet unethical conduct like conflicts of interest or resource allocation favoritism can undermine this resilience by fostering compromised decision-making, causing delays, increased costs, and tarnishing the organization's reputation for project delivery efficiency (Essuman et al., 2020). Reputational resilience refers to an organization's capacity to endure and bounce back from reputation harm caused by unethical practices like substandard materials or safety violations, which not only compromise project quality and safety but also engender negative perceptions among stakeholders, necessitating extensive efforts to rebuild trust and credibility (Gaultier-Gaillard & Louisot, 2006). Stakeholder resilience pertains to an organization's capacity to uphold favorable connections with clients, suppliers, and regulators, which are compromised by unethical actions like contractual breaches or regulatory violations, leading to consequences such as lost contracts, strained partnerships, and heightened regulatory oversight, thus jeopardizing long-term success by hindering the ability to secure new contracts, retain clients, and collaborate with industry partners (Jackson et al., 2007).

Supply chain resilience involves an organization's ability to adapt and recover from disruptions, but unethical procurement practices like bribery can jeopardize the integrity and reliability of the supply chain, leading to unreliable deliveries, higher costs, and legal liabilities, highlighting the importance of ethical conduct for building resilience and trust among suppliers and customers (Abidin & Ingirige, 2018; Kochan & Nowicki, 2018; Ribeiro & Barbosa-Povoa, 2018). Innovative resilience refers to an organization's capacity to promote creativity and adapt to industry changes, but a culture permitting unethical behavior stifles innovation by discouraging employees from contributing new ideas or taking risks, thus impeding the organization's adaptability, reducing its competitiveness, and limiting its responsiveness to emerging trends and opportunities (Mafabi et al., 2015).Human capital resilience concerns the organization's capacity to sustain a skilled and motivated workforce, yet unethical behaviors like discrimination or unsafe labor conditions can severely affect morale, productivity, and retention, potentially resulting in high turnover, difficulty in attracting talent, and a negative work atmosphere, underscoring the importance of cultivating an ethical workplace culture to foster resilience

and maintain a positive and productive environment (Pereira et al., 2019).

Adaptive capacity denotes the organization's capability to learn and adjust to evolving situations, yet unethical conduct, especially when leadership fails to acknowledge errors, inhibits organizational learning, leading to resistance to change and hampering effective responses to shifting project demands, industry trends, and external pressures (Dalziell & Mcmanus, 2004; Gallopin, 2006). Risk management encompasses the organization's proficiency in identifying, evaluating, and mitigating risks (Smith & Fischbacher, 2009), but unethical decision-making can result in insufficient risk assessment, leaving the organization susceptible to disputes, project failures, and financial losses, highlighting the necessity for ethical decision-making and a dedication to integrity throughout all organizational levels to ensure effective risk management. Crisis management entails the organization's adeptness in navigating and rebounding from crises (Pearson & Mitroff, 1993), yet unethical behavior can either fuel or worsen such crises, emphasizing the importance of addressing underlying issues transparently, making swift and ethical decisions, restoring stakeholder confidence, and implementing preventive measures to effectively manage crises and prevent their recurrence.

Incorporating ethical considerations into these dimensions of organizational resilience is vital for ensuring that construction companies can withstand challenges while maintaining the trust of stakeholders. By recognizing the far-reaching consequences of unethical practices, companies can implement strategies to align ethical behavior with resilience-building efforts (Figure 3).

6. Need for collaborative efforts

The study highlights the need for collaboration between various stakeholders in the construction sector—industry leaders, regulatory bodies, academics, and practitioners—because the complexity of the industry makes it difficult for any single group to address ethical challenges alone. For example, a contractor exposed to unethical practices by an employer may adjust its own ethical standards accordingly. Additionally, the widespread acceptance of facilitation payments could pressure ethically minded contractors to compromise their values. Similarly, if academics researching unethical practices do so without engaging with other stakeholders who understand the sector's dynamics, their findings may lack practical relevance.

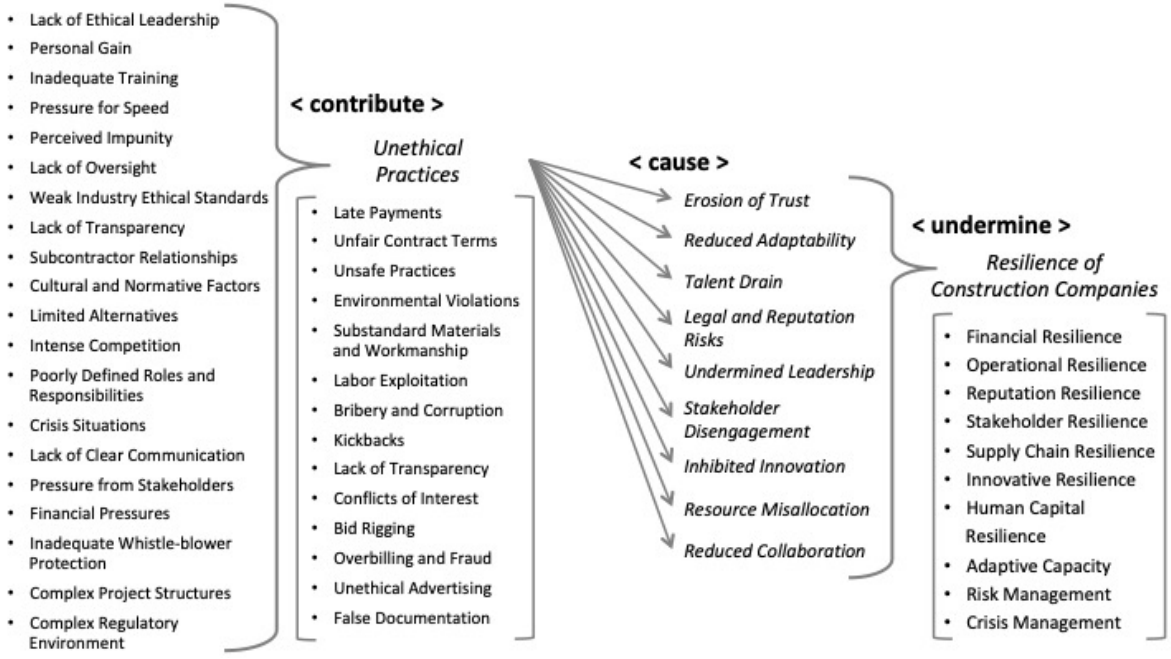

Figure 3. *Unethical practices - Resilience relationship.*

Future research should explore the interactions and relationships between these stakeholders to better understand how collaborative efforts can foster ethical behavior in the construction industry.

7. Conclusion

This research explores the complex interplay between unethical practices and the organizational resilience of construction companies. Drawing insights from semi-structured interviews with senior managers, surveys, and relevant literature, it offers a nuanced understanding of how unethical practices impact various dimensions of resilience.

The evaluation of the frequency and impact of unethical practices identified through the research offers valuable insights into the significant challenges facing the construction industry. Among the most prominent issues are late payments, unsafe work conditions, unfair contract terms, environmental violations, substandard materials and workmanship, and labor exploitation. Late payments, often reinforced by unfair contract terms, pose substantial global risks and threaten the resilience of construction companies, as highlighted by the experiences of senior managers. Unsafe practices, environmental violations, and substandard materials and workmanship further demonstrate the dangers posed by improper work standards. Additional unethical behaviors include kickbacks, bribery, lack of transparency, bid rigging, overbilling, and fraud. Addressing these challenges calls for comprehensive strategies and industry-wide initiatives focused on promoting ethical guidelines and enhancing transparency.

The findings also highlight the critical role of ethical leadership in shaping organizational ethics and reducing unethical behavior. Contributing factors such as personal gain, inadequate training, time pressures, perceived impunity, and insufficient oversight emerged as root causes of unethical conduct. These findings underline the need to strengthen accountability structures, cultivate ethical leadership, and establish robust industry standards to foster a culture of integrity and ethical excellence.

Key findings demonstrate that unethical behaviors undermine resilience by eroding trust, adaptability, leadership, talent retention, stakeholder relationships, supply chain efficiency, and resource allocation. They adversely affect financial, operational, reputational, supply chain, innovation, and human capital resilience, along with adaptive capacity, risk, and crisis management. This interconnected erosion of resilience capacities emphasizes the profound, multifaceted impacts of unethical practices on organizational performance.

The implications extend beyond trust and reputation to causing financial losses, operational disruptions, and strained stakeholder relationships. This underscores the importance of collaborative efforts across the construction ecosystem, including industry leaders, regulatory bodies, academics, and practitioners, to foster ethical practices. Future research should expand sample sizes and incorporate quantitative analysis for a comprehensive understanding of the industry's ethical landscape. Large-scale surveys and longitudinal studies could offer further insights into the prevalence and impact of unethical practices.

To ensure a sustainable and prosperous future for the construction industry, it is imperative to prioritize ethical conduct and resilience-building measures. By fostering a culture of integrity, construction companies can better navigate the complexities of a rapidly changing world and emerge stronger, ensuring a better tomorrow for future generations.

References

Abdul-Rahman, H., Abdul-Karim, S. B., Danuri, M. S. M., Berawi, A. M., & Wen, Y. X. (2007, September 4–5). *Does professional ethics affect construction quality?* [Conference presentation]. Quantity Surveying International Conference, Kuala Lumpur, Malaysia.

Abdul-Rahman, H., Wang, C., & Yap, X. W. (2010). How professional ethics impact construction quality: Perception and evidence in a fast-de-

veloping economy. *Scientific Research and Essays, 5*(23), 3742–3749.

Abdulazeez, A. S., Kolawole, M. A., Poki, S. W., & Suleiman, A. O. (2021). Effect of unethical conduct of professionals on construction project. *International Journal of Engineering Applied Sciences and Technology*, *6*(6), 36–43.

Abidin, N. A. Z., & Ingirige, B. (2018). Identification of the "pathogenic" effects of disruptions to supply chain resilience in construction. *Procedia Engineering, 212,* 467–474.

Abu Hassim, A., Kajewski, S., & Trigunarsyah, B. (2010, December 1–3). Factors contributing to ethical issues in project procurement planning: A case study in Malaysia. In *Proceedings of the 8th International Conference on Construction and Real Estate Management* (Brisbane, Queensland, Australia).

Adams, D. K. (2022). *Ethics in civil and structural engineering: Professional responsibility and standard of care.* McGraw-Hill.

Al-Sweity, A. Y. (2013). Unethical conduct among professionals in the construction industry [Unpublished master's thesis]. Islamic University of Gaza.

Aldrich, D. P. (2012). *Building resilience: Social capital in post-disaster recovery.* University of Chicago Press.

Amoah, C., & Steyn, D. (2022). Barriers to unethical and corrupt practices avoidance in the construction industry. *International Journal of Building Pathology and Adaptation, 41*(6), 85–101.

Ansah, S. K. (2011). Causes and effects of delayed payments by clients on construction projects in Ghana. *Journal of Construction Project Management and Innovation, 1*(1), 27–45.

Assarkhaniki, Z., Rajabifard, A., & Sabri, S. (2020). The conceptualisation of resilience dimensions and comprehensive quantification of the associated indicators: A systematic approach. *International Journal of Disaster Risk Reduction, 51,* 101766.

Ayodele, E. O., Ogunbode, A. B., Ariyo, I. E., & Alabi, O. M. (2011). Corruption in the construction industry of Nigeria: Causes & solutions. *Journal of Engineering Trends in Economics & Management Sciences, 2,* 156–159.

Bainbridge, A. (2022). *Ethics for engineers: A brief introduction.* Taylor & Francis.

Banahene-Blay, K. (2017). *Resilience in projects: Definition, dimensions, antecedents and consequences* [Doctoral thesis, Loughborough University].

Banahene, K. O., Anvuur, A., & Dainty, A. (2014). Conceptualising organisational resilience: An investigation into project organising. In A. B. Raiden & E. Aboagye-Nimo (Eds.), *Proceedings of the 30th Annual ARCOM Conference* (pp. 795–804). Association of Researchers in Construction Management.

Bimbola, A. E., Babalola, A. A., Lahanmi, A., Oke, A., & Iyabo, B. F. (2020). Evaluating the factors contributing to unethical practices by quantity surveyors in Nigerian construction industry. In *Proceedings of the 2nd African International Conference on Industrial Engineering and Operations Management* (Harare, Zimbabwe, December 7–10, 2020).

Bolton, S., Wedawatta, G., Wanigarathna, N., & Malalgoda, C. (2022). Late payment to subcontractors in the construction industry. *Journal of Legal Affairs and Dispute Resolution in Engineering and Construction, 14*(4), 04519013.

Bowen, P., Pearl, R., & Akintoye, A. (2007). Professional ethics in the South African construction industry. *Building Research & Information, 35*(2), 189–205.

Brand, M. C., & Uher, T. (2010). Follow-up empirical study of the performance of the New South Wales construction industry security of payment legislation. *International Journal of Law in the Built Environment, 2*(1), 7–25.

Challender, J. (2022). *Professional ethics in construction and engineering.* John Wiley & Sons.

Chan, A. P. C., & Owusu, E. K. (2017). Corruption forms in the construction industry: Literature review. *Journal of Construction Engineering and Management, 143*(8), 04017057.

Cheng, T., Soo, G., Kumaraswamy, M., & Jin, W. (2010). Security of payment for Hong Kong construction industry. *Proceedings of the Institution of Civil Engineers – Management, Procurement and Law, 163*(1), 17–28.

Choudhry, R. M., & Fang, D. (2008). Why operatives engage in unsafe work

behavior: Investigating factors on construction sites. *Safety Science, 46*(4), 566–584.

Dalyop, S. D. J., Bogda, P. O., Peter, O., & Elizebeth, D. (2017). Unethical professional practices and poor craftsmanship of construction projects performance in Nigeria: Consequences and the way forward. *Journal of Civil Engineering and Environmental Science, 3*(1), 022–030.

Dalziell, E. P., & McManus, S. T. (2004). Resilience, vulnerability, and adaptive capacity: Implications for system performance. *International Forum for Engineering Decision Making* (Stoos, Switzerland).

Erbaş, İ. (2018). Analysis of international construction companies in the context of corporate codes of ethics: Example of Türkiye. *International Journal of Advanced and Applied Sciences, 5*(6), 98–106.

Essuman, D., Boso, N., & Annan, J. (2020). Operational resilience, disruption, and efficiency: Conceptual and empirical analyses. *International Journal of Production Economics, 229,* 107762.

Fan, L. C., & Fox, P. W. (2009). Exploring factors for ethical decision making: Views from construction professionals. *Journal of Professional Issues in Engineering Education and Practice, 135*(2), 60–69.

Forister, C. A. (2003). Ethics and civil engineering: Past, present, and future. *Journal of Professional Issues in Engineering Education and Practice, 129*(3), 129–130.

Gallopín, G. C. (2006). Linkages between vulnerability, resilience, and adaptive capacity. *Global Environmental Change, 16*(3), 293–303.

Gaultier-Gaillard, S., & Louisot, J. P. (2006). Risks to reputation: A global approach. *Geneva Papers on Risk and Insurance – Issues and Practice, 31,* 425–445.

Glaser, B. G., & Strauss, A. L. (1967/2006). *The discovery of grounded theory: Strategies for qualitative research.* Aldine de Gruyter. (Original work published 1967)

Grzegorz, M. (2022). The concept of resilience: Dimensions, properties of resilient systems and spatial scales of resilience. *Geographia Polonica, 95*(4), 295–310.

Gündüz, M., & Önder, O. (2012). Corruption and internal fraud in the Turkish construction industry. *Science and Engineering Ethics, 19*(2), 505–528.

Gustafsson, S., Gillespie, N. A., Searle, R., Hailey, V. H., & Dietz, G. (2021). Preserving organizational trust during disruption. *Organization Studies, 42*(9), 1409–1433.

Hamimah, A., Norfashiha, H., Norazian, M. Y., & Norizan, A. (2011). Ethical issues in the construction industry: Contractor's perspective. *Asia Pacific International Conference on Environment-Behaviour Studies* (7–9 December 2011, Famagusta, North Cyprus).

He, Q. H., Zheng, M., & Wang, T. (2017). Resilience for construction project-based organizations: Definition, critical factors and improvement strategies. In *Proceedings of the 22nd International Conference on the Advancement of Construction Management and Real Estate* (Australia).

Ho, C. M. (2011). Ethics management for the construction industry—A review of ethical decision-making literature. *Engineering, Construction and Architectural Management, 18*(5), 516–537.

Hoseah, E. G. (2014). Corruption as a global hindrance to promoting ethics, integrity, and sustainable development in Tanzania: The role of the anti-corruption agency. *Journal of Global Ethics, 10*(3), 384–392.

Irumba, R., & Mwakali, J. A. (2007). Ethics in construction: Examples from Uganda. *CIB World Building Congress 2007.*

Jackson, D., Firtko, A., & Edenborough, M. (2007). Personal resilience as a strategy for surviving and thriving in the face of workplace adversity: A literature review. *Journal of Advanced Nursing, 60*(1), 1–9.

Jia, X. (2018). *The role of social capital in building organizational resilience* [Master's thesis, University of Canterbury].

Kish-Gephart, J., Detert, J., Treviño, L. K., Baker, V., & Martin, S. (2014). Situational moral disengagement: Can the effects of self-interest be mitigated? *Journal of Business Ethics, 125*(2), 267–285.

Kochan, C. G., & Nowicki, D. R. (2018). Supply chain resilience: A systematic literature review and typological framework. *International Journal of Physical Distribution & Logistics Management, 48*(8), 842–865.

Kuçuradi, İ. (2023). *Ahlak, etik ve etikler* (3rd ed.). Türk Felsefe Kurumu, Tarcan Matbaası.

Lip, E. (2006). Curing the ills of non-payment in the construction industry—The Singapore experience. In *Proceedings of the 8th Surveyors' Congress* (ISM), Kuala Lumpur, Malaysia.

Liu, Y., & Yin, J. (2020). Stakeholder relationships and organizational resilience. *Management and Organization Review, 16*(5), 986–990.

Mafabi, S., Munene, J. C., & Ahiauzu, A. (2015). Creative climate and organisational resilience: The mediating role of innovation. *International Journal of Organizational Analysis, 23*(4), 564–587.

Mason, J. (2009). Ethics in the construction industry: The prospects for a single professional code. *International Journal of Law in the Built Environment, 1*(3), 194–204.

McCarthy, S. F. (2012). Developing an Australian code of construction ethics. *Australasian Journal of Construction Economics and Building, 12*(2), 87–100.

McManus, S., Seville, E., Vargo, J., & Brunsdon, D. (2007). *Resilience management: A framework for assessing and improving the resilience of organisations* (Research Report No. 2007/01). Resilient Organisations.

Mihelič, K. K., Lipičnik, B., & Tekavčič, M. (2010). Ethical leadership. *International Journal of Management & Information Systems, 14*(5), 69–77.

Mitchell, M. S., Rivera, G., & Treviño, L. K. (2022). Unethical leadership: A review, analysis, and research agenda. *Personnel Psychology, 76*(2), 547–584.

Monahan, K. (2012). A review of the literature concerning ethical leadership in organizations. *Emerging Leadership Journeys, 5*(1), 56–66.

Monteiro, B. K., Masiero, G., & Souza, F. R. de. (2020). Corruption in the construction industry: A review of recent literature. *International Journal of Construction Management, 22*(14), 2744–2752.

Moodley, K., Smith, N., & Preece, C. N. (2008). Stakeholder matrix for ethical relationships in the construction industry. *Construction Management and Economics, 26*(6), 625–632.

Mukumbwa, B., & Muya, M. (2013). Ethics in the construction industry in Zambia. *International Journal of Construction Management, 13*(2), 43–65.

Muldera, L. B., Rinka, F., & Jordan, J. (2020). Constraining temptation: How specific and general rules mitigate the effect of personal gain on unethical behavior. *Journal of Economic Psychology, 76,* 102242.

Pearson, C. M., & Mitroff, I. I. (1993). From crisis prone to crisis prepared: A framework for crisis management. *Academy of Management Executive, 7*(1), 48–59.

Pereira, V., Temouri, Y., & Patel, C. (2019). Exploring the role and importance of human capital in resilient high performing organisations: Evidence from business clusters. *Applied Psychology: An International Review, 69*(4), 724–750.

Peters, E., Subar, K., & Martin, H. (2019). Late payment and nonpayment within the construction industry: Causes, effects, and solutions. *Journal of Legal Affairs and Dispute Resolution in Engineering and Construction, 11*(3), 04519013.

Ponomarov, S. Y., & Holcomb, M. C. (2009). Understanding the concept of supply chain resilience. *International Journal of Logistics Management, 20*(1), 124–143.

Ramachandra, T., & Rotimi, J. O. (2015). Causes of payment problems in the New Zealand construction industry. *Construction Economics and Building, 15*(1), 43–55.

Ribeiro, J. P., & Barbosa-Póvoa, A. (2018). Supply chain resilience: Definitions and quantitative modelling approaches—A literature review. *Computers & Industrial Engineering, 115,* 109–122.

Salignac, F., Marjolin, A., Reeve, R., & Muir, K. (2019). Conceptualizing and measuring financial resilience: A multidimensional framework. *Social Indicators Research: An International and Interdisciplinary Journal for Quality-of-Life Measurement, 145,* 17–38.

Sapeciay, Z., Wilkinson, S., & Costello, S. B. (2017). Building organisational resilience for the construction industry—New Zealand practitioners' perspective. *International Journal of Disaster Resilience in the Built Environment, 8*(1), 98–108.

Sapeciay, Z., Wilkinson, S., Costello, S. B., & Adnan, H. (2019). Building organisational resilience for the construction industry: Strategic resilience indicators. *IOP Conference Series: Earth and Environmental Science, 385,* 012068.

Seville, E. (2008, November). Resilience: Great concept but what does it mean? *US Council on Competitiveness Workshop: Risk and Resilience,* Wilmington, USA.

Shah, R. K., & Alotaibi, M. (2017). A study of unethical practices in the construction industry and potential preventive measures. *Journal of Advanced College of Engineering and Management, 3,* 55-77. ISSN 2392- 4853.

Sin, T. A. S. (2006). Payment issues—The present dilemmas of Malaysian construction industry [Master's thesis, Universiti Teknologi Malaysia].

Smith, D., & Fischbacher, M. (2009). The changing nature of risk and risk management: The challenge of borders, uncertainty and resilience. *Risk Management, 11*(1), 1–12.

Tengblad, S., & Oudhuis, M. (Eds.). (2018). *The resilience framework: Organizing for sustained viability.* Springer Nature Singapore.

Usman, N. D., Inuwa, I. I., & Iro, A. I. (2012). Influence of unethical profession practices in the management of construction projects in Northeastern States in Nigeria. *International Journal of Economic Development Research and Investment, 3*(2), 13–23.

Vee, C., & Skitmore, C. (2003). Professional ethics in the construction industry. *Engineering, Construction and Architectural Management, 10*(2), 117–127.

Wang, D., Wu, Y., & Zhang, K. (2022). Interplay of resources and institutions in improving organizational resilience of construction projects: A dynamic perspective. *Engineering Management Journal, 35*(6), 1–12.

Whitehill, T., & Ainsworth, A. (2018). *The organisational resilience of the UK construction industry.* Constructing Excellence UK.

Wilkinson, S., Chang-Richards, A. Y., Sapeciay, Z., & Costello, S. B. (2016). Improving construction sector resilience. *International Journal of Disaster Resilience in the Built Environment, 7*(2), 173–185.

Wu, J. (2008). Payment problems and regulatory responses in the construction industry: Mainland China perspective. *Journal of Professional Issues in Engineering Education and Practice, 134*(4), 399–407.

Yang, J., & Cheng, Q. (2020). The impact of organisational resilience on construction project success. *Journal of Civil Engineering and Management, 26*(8), 775–788.

Zhang, B., Le, Y., Xia, B., & Skitmore, M. (2017). Causes of business-to-government corruption in the tendering process in China. *Journal of Management in Engineering, 33*(2), 05016022.

Zhu, J. (2016). *A system-of-systems framework for assessment of resilience in complex construction projects* [Doctoral dissertation, Florida International University].

Zulkifli, I., Noraini, H., & Muhamad, A. K. (2019). Research on the unethical conducts and practices among professionals in the construction industry. *International Journal of Recent Technology and Engineering, 8*(2S3), 1–7.

Zulu, S., & Muleya, F. (2019). A student perspective of ethics in the Zambian construction industry. *Journal of Engineering, Design and Technology, 17*(2), 266–282.