

How Generative AI Can Help Fight Construction Fraud

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Taking a look at the current state, challenges, and solutions of using generative AI in the construction industry might reveal ways it can be used to prevent, identify, and combat construction fraud.

The construction industry is plagued by fraud, ranking in the top five median losses by industry, according to the Association of Certified Fraud Examiners. In 2024, the same ACFE report indicated that the median loss for the construction industry was \$250,000, and the median duration of a fraudulent scheme (i.e. the amount of time a fraud was committed before being detected) was 12 months, with the most common types of fraud in the U.S. construction industry being billing schemes, corruption, expense reimbursements, and non-cash misappropriation. Such fraud can take many forms – bid rigging, inflated invoices, falsified documents, defective materials, and bribery – leading to cost overruns, delays, quality issues, safety hazards, legal disputes, and other serious consequences for project owners, contractors, suppliers, and the public.

Detecting and preventing fraud is a vital part of any construction project, but it is also a challenging one, as fraudsters are becoming more sophisticated and elusive, and traditional fraud detection methods, which rely on manual audits, random checks, and whistleblowers, are often insufficient. This is where generative AI can make a difference.



CURRENT STATE

Generative AI is a branch of artificial intelligence that can create novel and realistic outputs, such as images, texts, sounds, or designs, based on a given input or goal. Generative AI has been making waves in various domains, enabling new forms of creativity, innovation, and personalization. However, the construction industry has been slow to adopt generative AI, despite its potential to enhance fraud detection and prevention. According to a recent survey by KPMG, only 37% of respondents reported that they missed budget and/or schedule performance targets. However, the same survey also indicates that 11% of firms have not adopted basic data analytics and 31% have not adopted advanced data analytics.

Using generative AI for fraud detection and prevention in construction can offer many benefits, such as:

- » **Improving fraud detection-and prevention accuracy and efficiency:** Generative AI can generate realistic and diverse fraud-detection and prevention scenarios and simulations based on various inputs, such as project specifications, contracts, invoices, receipts, and reports. This can help identify and quantify the potential fraud risks and indicators, as well as their patterns and anomalies. Moreover, generative AI can generate optimal solutions and recommendations based on the desired objectives and constraints, such as fraud-prevention strategies, fraud-detection thresholds and fraud-response actions. This can help reduce the likelihood and impact of fraud, as well as the time and cost of fraud detection and prevention.
- » **Enhancing fraud-detection and prevention learning and innovation:** Generative AI can generate novel and unexpected outputs, such as new fraud schemes, new fraud-detection methods and new fraud-prevention measures, based on existing data and knowledge. This can help expand and update the construction industry's fraud-detection and prevention knowledge base, as well as facilitating the discovery of new fraud-detection and prevention opportunities.
- » **Increasing fraud-detection and prevention communication and collaboration:** Generative AI can generate engaging and intuitive visualizations and narratives based on fraud data and insights. This can help stakeholders, such as project owners, contractors, suppliers, regulators, and insurers in the construction industry communicate and share fraud information and knowledge and facilitate better decision making and coordination.

CHALLENGES TO OVERCOME


The use of generative AI for fraud detection and prevention in construction faces several challenges, such as:

- » **Data quality and availability:** Generative AI relies on large and diverse datasets to train and test its models, but construction data is often sparse, noisy, incomplete, and/or inconsistent, due to the heterogeneous nature of the industry. Moreover, construction data is often sensitive and

confidential, and accessing and sharing it can raise privacy and security issues.

- » **Model validity and reliability:** Generative AI models are often complex and opaque, and their outputs can be hard to interpret and verify. This can raise questions about the validity and reliability of the models and their outputs, and their suitability for fraud-detection and prevention purposes. Moreover, generative AI models can be vulnerable to adversarial attacks, where fraudsters can manipulate the input or output data to fool or bypass the models.
- » **Regulatory and ethical compliance:** Generative AI models can have legal and ethical implications, such as liability, accountability, transparency, and fairness, especially when they are used to make decisions that affect the rights and interests of stakeholders. Therefore, using generative AI for fraud detection and prevention in construction requires compliance with relevant laws and regulations, as well as the ethical principles and standards of the industry.

In conclusion, generative AI is a promising technology that can help fight fraud in construction by enabling more accurate, comprehensive, and proactive fraud-detection and prevention processes and outcomes. By using generative AI, construction companies, owners, and developers can improve fraud-detection and prevention accuracy and efficiency, enhance fraud-detection, and prevention learning and innovation, and increase fraud-detection and prevention communication and collaboration. This can help them achieve higher cost savings, quality improvements, risk reductions, and stakeholder satisfaction.

However, using generative AI for fraud detection and prevention in construction also requires overcoming several challenges, such as data quality and availability, model validity and reliability, and regulatory and ethical compliance. Therefore, companies should adopt generative AI as a strategic tool and a value driver for their fraud detection and prevention activities, and invest in the necessary resources, capabilities, and culture to adopt and implement it successfully. 



About the Author

Christopher Ward is the associate managing director at [K2 Integrity](#), a global consultancy and investigative firm. He works with public and private sector clients to develop and implement risk assessments and work plans designed to monitor and audit compliance with project and contractual requirements and to identify and close gaps in project controls, policies, and procedures. Chris supervises a team of forensic engineers to ensure delivery of high-quality work product that helps ensure clients' construction project are in compliance with regulations and requirements.

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