Harnessing the Power of AI for Construction Disputes

The construction industry is one of the least digitized industries in the world,[1] largely due to the cost of technology implementation and the notion that the lowest bid wins. As innovative technologies advance, the industry has realised that it can no longer sit still if it wants to effectively tackle productivity challenges and the growing volume of claims and disputes. This article explores the impact of artificial intelligence (AI) and its potential to drive efficiency, safety, sustainability, and effective dispute resolution.

What Are the Key Benefits of Using AI in Construction Projects?

AI can have a profound impact on the performance of a construction project, which we summarise below. If implemented early on, these tools can also help to minimise disputes throughout the project lifecycle and positively impact profitability.

1. Enhancing Safety

Safety is of utmost importance in the construction industry, so it is essential to use tools that can minimise risks and accidents.

The use of AI-powered drones and robots to inspect sites can effectively identify potential hazards and ensure strict adherence to safety regulations. Moreover, workers equipped with wearable devices embedded with AI algorithms (in their helmets, for example) can have their vital signs monitored and fatigue detected so supervisors can be alerted of any potential health risks.

AI-driven predictive analytics are also utilised to analyse previous incidents, enabling the identification of patterns and facilitating proactive accident prevention measures.

2. Improving Efficiency

AI-enabled robotics automate labour-intensive tasks such as bricklaying and concrete pouring. Robotic systems equipped with AI algorithms can work efficiently, accurately and tirelessly, reducing the reliance on human labour for repetitive tasks. This will not only enhance productivity but also eliminate the risk of injuries associated with physical tasks.

3. Predicting Outcomes

Sensors can be installed in machinery and equipment to detect signs of wear and tear and through certain algorithms, predict potential breakdowns. This will enable construction companies to implement preventive maintenance, reducing downtime and repair costs. It also ensures that projects progress smoothly and deadlines are met.

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4. Real-Time Monitoring

Record-keeping using AI-powered, real-time monitoring systems provides a comprehensive view of project progress, performance metrics and potential bottlenecks. By analysing data from various sources, such as drones, cameras and sensors, AI can facilitate effective decision-making, enabling prompt action to address emerging issues.

Construction projects are, nevertheless, prone to disputes and disagreements that can lead to costly and time-consuming litigation processes. We share several examples of how AI can speed up this process.

How Can AI Be Used in Construction Disputes?

AI-Driven Contract Analysis

Construction disputes often arise due to ambiguities or misinterpretations in contracts. Reviewing and analysing volumes of legal documents can be time-consuming and prone to human error. AI-powered contract analysis tools can significantly speed up the process, efficiently scanning contracts to identify potential issues or discrepancies. Natural Language Processing (NLP) algorithms in AI systems can extract critical information, clauses and deadlines, aiding lawyers in building stronger cases based on clear contractual evidence; this expedites the dispute resolution process and enhances the accuracy and quality of legal arguments.

Furthermore, expert witnesses can also leverage these tools to improve the speed and accuracy of complex data processing, leading to more robust expert reports that any tribunal can benefit from.

Data Analytics for Early Detection

AI-driven data analytics can identify patterns and trends in construction disputes. By analysing historical data from past cases, AI algorithms can predict potential areas of conflict and assess key risk factors. Early detection of potential disputes allows stakeholders to take preventive measures, encouraging proactive communication and collaboration. AI's ability to recognise recurring issues can prompt construction companies to modify their practices, minimising the likelihood of disputes arising in the first place.

E-Discovery and Document Review

Litigation often involves extensive document review, which can be time-consuming and costly. AI-powered e-discovery platforms streamline this process by quickly scanning and categorising vast amounts of documents, emails and communication records. Machine learning algorithms can identify relevant documents and flag key information, enabling lawyers to focus on the most critical aspects of the case.

AI as a Legal Research Assistant

Legal research is an essential aspect of any litigation process. AI-based legal research assistants can significantly expedite this task by swiftly sorting through legal databases, statutes and case laws to find relevant precedents and legal arguments. Advanced AI algorithms can even predict potential outcomes based on historical case data, assisting lawyers in formulating their strategies. This saves time and ensures that legal arguments are robust and well-informed.

AI-Powered Mediation and Negotiation

Mediation and negotiation are preferred methods of dispute resolution in construction projects as they save time and costs compared to formal litigation. AI-powered mediation platforms can help facilitate negotiations by analysing data from both parties, identifying areas of common ground and proposing potential solutions that could lead to settlements. The use of AI in mediation can promote fairness and objectivity, enabling constructive dialogue between parties and increasing the likelihood of reaching agreements without the need for lengthy court proceedings.

AI for Case Outcome Predictions

AI's predictive capabilities extend beyond legal research to anticipate case outcomes. By feeding AI systems with relevant data, including the specifics of the dispute, historical court decisions and other relevant factors, lawyers and clients are provided with probabilistic assessments of potential verdicts. While not definitive, these predictions offer valuable insights that can influence legal strategies, including settlement decisions and the allocation of resources.

Paving the Way for a Smarter Future

Embracing artificial intelligence is a necessity for construction companies aiming to remain competitive in the rapidly evolving landscape of the industry. Despite the cost associated with implementation, if the above tools, amongst others, are implemented correctly, the construction industry can pave the way for a future characterised by smarter, safer, and more sustainable infrastructure.

As AI continues to evolve, its role in construction litigation will undoubtedly expand, creating a future where disputes are resolved with greater speed and accuracy, and ultimately fostering a more collaborative and prosperous construction industry.

SHARE YOUR VIEWS

Could AI replace humans in the construction dispute process? Will judges and arbitration tribunals rely solely on AI tools in the future? Let us know your thoughts by getting in touch with the author.

Endnotes

1 https://www.sciencedirect.com/science/article/pii/S2352710221011578

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