Kluwer Arbitration Blog

Arbitration Tech Toolbox: Taking Stock of Arbitration Tech Developments, a Half-Decade On

Gauthier Vannieuwenhuyse (Hogan Lovells) and Arias Lim (K&L Gates Straits Law) · Monday, March 6th, 2023

Given the protean nature of technology, it has the propensity to evolve in ways that may surprise even the keenest observers. As such, the time is ripe to take stock of developments in relation to the new technologies discussed in our earlier article from 2018, such as Big Data, blockchain, machine learning and text mining, and the novel ones which have come into being since the article was written, with the goal of identifying the new tools available to arbitration users.

At the outset, a couple of general observations on technology and the legal landscape may be warranted. First, it seems clear that "new technologies" like blockchain and smart contracts are now firmly entrenched in the economy. Thus, regardless of the turbulence in the cryptocurrency market, it seems clear that digital assets like cryptocurrency and NFTs are here to stay. Second, many disputes involving such digital assets and technologies are resolved by arbitration. As discussed in our earlier article, there is an inherent compatibility between such disputes and the arbitration process. This can be illustrated by how the year began with reports that mass claims had been filed with the American Arbitration Association pursuant to the crash of the cryptocurrency exchange, Gemini Earn. More to the point, there is an increasing inclination to conduct such arbitrations with the assistance of high-technology tools, the latter of which form the focus of this article.

Application of New Technologies to Arbitration

Below, we examine some of the new tools that are currently available to arbitration users or that may become available to them in future. One notable development has been the creation of dispute resolution Blockchain protocols like Kleros, which have now been proven capable of yielding enforceable awards (and was the subject of a recent Kluwer Arbitration Blog article).

(1) The use of AI to resolve substantive disputes

Amongst the many predictions made by technology writers, one oft-discussed development is whether artificial intelligence (AI) or "robots" will one day replace arbitrators. In our last article, we commented that this was unlikely, as decisions made in this manner appear to lack certain

necessary qualities for awards to be upheld. The prevailing view was and remains that characteristics such as empathy, morality and independence are fundamental to the role of an arbitrator, and that these are, at least for now, inimitable by AI.

At present, there do not appear to be institutions or platforms which rely on AI to substantively determine arbitration disputes. This may be because decisions made by AI, especially those based on predictive justice, may not be considered to meet the requirements of due process. One classic difficulty is that, since AI relies on precedents to reach outcomes, any bias held by earlier decision-makers would become entrenched in the AI algorithms, which would thus continue to perpetrate errors in judgment. The enforceability of such awards, accordingly, is dubious. However, there are reports of Chinese and Estonian courts adopting AI to decide simple litigation disputes. It is thus within the realm of possibility that such technology could be deployed to resolve certain arbitration claims (e.g. simple, low-cost claims) in the not-too-distant future, especially where there is no better forum available to the parties.

(2) Token-supported third-party funding

Litigation funders have sought to tap new technologies in ways that may increase the availability of funds to parties in dispute. They do so by permitting individual investors to participate in funding, a domain traditionally open only to investment funds and venture capitalists, thereby increasing the pool of funds available.

For example, Liti Capital SA, a Swiss company, claims to offer individual investors the possibility of purchasing equity tokens (aptly named “LITI tokens”) and receiving dividends. As with traditional litigation funding, the investors then rely on the management team to invest in the right disputes. Liti Capital appears to be the only operating one at this time, albeit there have been other similar initiatives (e.g. Ryval, which is reported to have encountered difficulties and does not appear operational presently). Nonetheless, the impact of such enterprises has already been realised. At present, Liti Capital’s slate of cases include high profile disputes such as a HKIAC arbitration arising from a stock purchase default, and a HKIAC mass claim against Binance.

Given the high rate of return which litigation funding offers, individuals are likely to be drawn to such investment opportunities. As such, it is likely that businesses adopting the same technology and business model as Liti Capital will continue to spring up. However, it should be noted that this is an industry where the intervention of regulators is likely. Firstly, litigation funding is still relatively new in some jurisdictions like Singapore and Hong Kong, and is prohibited in others, including certain states in the United States. Secondly, given the similarities between tokens and company shares, some jurisdictions, such as the United States (where Kim Kardashian was famously charged under the Securities Act for touting tokens), consider that the tokens can in some cases amount to shares or securities. Thus, in such jurisdictions, token holders could be entitled to shareholder rights and remedies under domestic law. Arguably, this would be contrary to the delocalised and flexible business model which encouraged funders to create such investment vehicles in the first place.

(3) Case management on decentralised autonomous organisation platforms

Blockchain technology has also been harnessed for the management of mass arbitration claims.

Law 360 has reported that some law firms based in the United States are relying on decentralised autonomous organisations (DAO) to solicit claimants worldwide in mass claims made against Paypal and Amazon. The DAO is also used to manage the interests of the claimants. In fact, the same report indicates that such proceedings have already been filed on behalf of more than several thousand claimants.

There are several characteristics of DAOs which could render them suitable tools for the handling of mass claims. A DAO is essentially an organisation that is governed by blockchain and which is collectively owned by users. Decisions are made by collective decision rather than by an appointed leader. In the aforementioned case, the claimants each signed a contribution agreement and created an e-wallet, and thereafter received a token which allowed them to vote on actions to be taken by the DAO. While DAOs can certainly facilitate some of the organisational challenges that arise in mass claims, it remains to be seen if there are any major obstacles that will stand in the way of their popularisation. In particular, the DAO may not be well-equipped to deal with regulatory issues and ethical issues. Generally, collective decisions made on a DAO are automatically executed by smart contracts that constitute the DAO's operating system. Thus, unless the right safeguards are put in place, parties could theoretically make decisions that breach ethical requirements, such as the destruction of digital evidence, without the opportunity for a solicitor to advise against such conduct.

(4) Construction modelling AI tools

Parties in construction disputes can also rely on artificial intelligence to present facts and technical details.

This can be achieved through equipping the Building Information Modelling process (BIM) with AI abilities. BIM is the process of creating data sets of information models in a shared digital space to manage construction projects. While BIM is not new, the integration of AI into its processes in recent times has revolutionised its operations. For example, by employing data analytics and machine learning functions, BIM can now predict infrastructural problems which could arise in future, and adapt building plans to accommodate modifications to the project requested by parties.

In the arbitration context, AI-enhanced BIM can be used to create highly-detailed digital 3D models to represent the build, and can thus demonstrate how minute defects or variations resulted in the problems encountered. Additionally, "4D BIM" allows parties to create digital links between the building models and temporal data, such that parties can create space-time simulations which show the sequence of the construction work performed. This enables parties to create models to compare the planned sequence of events to the work actually performed, which is particularly useful for disputes concerning work variations, delays and price adjustment.

It is frequently lamented that construction disputes are technical and complex, such that even seasoned lawyers and arbitrators may encounter difficulties understanding the documents. The use of such AI modelling tools therefore promises to be a highly welcome development which brings clarity and efficiency to the resolution of such disputes.

Closing Thoughts

In 1979 when the *Hitchhiker's Guide to the Galaxy* was published, the super-computer Deep Thought required a period of 10 million years to design an algorithm to answer a question (subject to the absence of meddlesome alien bureaucrats). Today, ChatGPT – the focus of another recent Blog article – was able to compose, within seconds, a six-stanza poem about the AI tools available for arbitration users, which includes the below:

> "AI tools, a beacon of hope
>
> For arbitration, they can cope
>
> With the challenges that slow us down,
>
> And make the process fair and sound
>
> There is machine learning, deep and wise,
>
> It can analyse date with its eyes,
>
> And find patterns, no human can,
>
> Making decision making more smoother than.
>
> …
>
> These AI tools, a symbol of change,
>
> In arbitration, they arrange,
>
> The way things were done, in the past,
>
> To a future where efficiency will last."

As explored above, in the past half-decade, technology has certainly continued to develop in ways that make arbitration more efficient in terms of time and costs. While new AI research tools like ChatGPT cannot, for the moment, be fully relied on to perform legal research for the reasons set out in the aforementioned Blog article (such as concerns about accuracy), we believe that such technology will continue to develop rapidly in the near future and that field of AI research is one that should be closely watched.

Further posts in our Arbitration Tech Toolbox series can be found here.

accuracy or completeness of any information in this post.

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