



EVOLVING GLOBALIZATION; AN APPRAISAL OF TECHNOLOGICAL ADVANCEMENTS IN LABOUR ARBITRATION

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ABSTRACT: *This paper aims to establish how advanced technology has impacted on labour arbitration particularly by analysing how digital solutions and conduct of hearings using technological devices has impacted on the dispute resolution processes. The present research question aims to explore the impact of technological developments on efficiency and open realisation of labour arbitration. The study adopts a qualitative approach and analyses recent scholarly works and case studies on virtual platforms, AI, and data analytics in labour arbitration. The research evidence indicates that even as efficiency has increased through the use of technology, new concerns on the use of technology, special attention to those who are excluded from technology, and protection of their data, and fairness in the processes catalysed by technology emerge. Thus, conclusions necessary to maintain labour arbitration systems as both innovative and equitable, call for policies that will encourage further advancements. Lastly, the paper provides policy, employer, and arbitrator implications for these emerging changes.*

KEYWORDS: Evolution, Globalization, Labour, Arbitration.



INTRODUCTION

As a time-honoured technique for resolving workplace conflicts without courts, labour arbitration has played an important role. Arbitration is based on the philosophy of Alternative Dispute Resolution (ADR), and is designed as an inexpensive, speedy and unprejudiced way of resolving employer – employee disputes. Traditional labour arbitration has included in-person hearings, manual document submissions, and reliance on arbitrators who agree to decide based on testimonies, evidence, and legal precedents as binding decisions. Yet, as technology continues to progress, the way in which arbitration is handled is fundamentally changing, adding dynamic, new elements to the old process. The use of technology for experiencing labour arbitration started off the integration process with the implementation of digital case management systems and the electronic submission of documents. The COVID-19 pandemic has greatly reduced traditional legal and ADR processes around the world accelerating this shift. Because of social distancing measures and lockdowns, in-person arbitration sessions became impractical, fueling a quick move to virtual hearings and online dispute resolution platforms. Such was the case that digital tools like video conferencing software, AI based document analysis, electronic filing system emerged as ingredients to the process of arbitration and thus cases could continue even with physical restrictions.

The fundamental transition to technology enhanced arbitration is not solely a hit on pandemic related challenge but is a part of the wider technological shift that is highlighting the legal sector to digitise. Due to the elimination of geographical barriers and associated costs through the use of remote hearings, arbitration has become more accessible and may widen access to parties who otherwise would be unable or unable to afford, or access, traditional arbitration. Also, these advancements have come with more flexible scheduling, better case management, and the flexibility to jump international labour disputes (Akanbi & Oyedele, 2023; International Court Of Justice, 2022). That is not to say that this technological transformation is purely positive, however, it does bring opportunities and obstacles. On the one hand, digital tools like AI, can eliminate the routine tasks like document review and case analysis which can improve efficiency and product load of arbitrators. Trends in arbitration decisions can also be examined using AI algorithms, giving ideas into how similar cases have been settled, enabling arbitrators and parties to constructively guide decision making. Other tools, such as augmented and virtual reality (AR/VR) can also be used to present evidence more dynamically during hearings to increase the understanding of complex cases and particularly those involving technical or construction disputes (ArbTech, 2022).

It also means greater reliance on technology that raises concerns about procedural fairness and equity. Participation can be skewed by the "digital divide"– the gap between those with adequate access to technology and those without. The virtuality of arbitration makes it difficult for those that lack digital literacy or high speed Internet to fully participate in the process. The aspect of AI or the use of automated tools in an arbitration context can also raise ethical and legal issues like biases on algorithms, breach of privacy and the authenticity of digital evidence (Ibrahim & Onwuka, 2020). Technology is used in labour arbitration in Nigeria, a trend of digital transformation within the justice system generally. In particular where commercial and civil disputes are concerned, the judiciary have recently embraced e-filing systems, electronic court registries as well as online dispute resolution mechanisms. Finally though, there remains significant digital infrastructure and policy framework gaps to support large scale technology use for labour disputes. Issues pertaining to the training of digital competence of legal practitioners and labour organisations amongst others in Nigeria need to be addressed as they



relate to the training of arbitrators in digital competence, establishing cybersecurity, introduction of policies for uniformity to the use of technology in all arbitration bodies (Adesina & Ayoade, 2023).

Labour arbitration moving toward technology is consistent with the global trend toward modernising conflict resolution to cope with the challenges of an ever growing technological world. With the development of technology comes the need for arbitral frameworks to adapt to new developments whilst guarding tenets of fairness, privacy and access to justice. It provides this background for a more in depth analysis of how technological changes are altering labour arbitration and what can be done to achieve a better equilibrium between efficiency and procedural safeguards.

Research Objectives

1. To what extent does the use of technology have an impact on efficiency in the labour arbitration process and the outcomes of the proceedings.
2. To what extent does remote hearings have an effect on labour arbitration access to justice and fairness.
3. To identify challenges and risks of technologically driven arbitration processes namely, digital divide and cybersecurity threats.
4. To Offer suggestions for framework development aimed to boost digital competence of arbitrators and the stakeholders for inclusive arbitration practice.

Research Questions

The following questions guided the study:

1. What effect do technological tools like artificial intelligence and virtual hearings have on labour arbitration's efficiency and effectiveness?
2. Which of these digital tools introduce fairness and accessibility challenges in the remote hearings?
3. What effects does the engagement of technology have on procedural fairness, and where does digital literacy and access gaps, in the involved participants?
4. How can we build policies or frameworks to ensure that labour arbitration will remain fair and secure in a technological landscape?

Significance of the Study

Several reasons make this study significant. It focuses on the changing domain of labour arbitration in the age of digital, enquiring as to how technology can facilitate or impede dispute resolution. Second, it provides practical recommendations for policy makers, arbitrators, and labour organisations adjusting the frameworks of arbitration to more modern expectations. In Nigeria, labour relations are vital to national and global economic stability and therefore, how technology affects arbitration matters; hence the need to develop effective dispute resolution processes for the country, which is the focus of this work. In the end, this paper adds to a larger discussion about the balancing of innovation with equity to make certain that the use of



technology in arbitration does not undermine vulnerable participants (Akanbi & Oyedele, 2023; ArbTech, 2022).

Scope of the Study

A focus on technological advancements in labour arbitration: virtual hearings, AI tools, and digital case management systems is the focus of this study. By focusing on Nigeria, and drawing spurious comparative insights from other developing and developed economies where similar technological trends are taking place. Over the timeframe of the research, 2019 to 2024 to track the post pandemic shift towards technology adoption in arbitration. As a result of resource constraints, the study bases itself on comprehensive secondary data, but does not include empirical interviews and the collection of primary data. Future research could be developed to address these limitations by studying firsthand experiences of arbitrators, employers and employees.

LITERATURE REVIEW

Remote Hearings and Remote Arbitration

The COVID-19 pandemic has brought virtual hearings to the forefront and made arbitration a virtual proceeding. In these remote sessions video conferencing platforms are used to facilitate the participation of arbitrators, lawyers and disputing parties who are based in different locations. In cross border disputes, virtual hearings are cheaper than physical hearings, as travel costs are reduced and the venues are therefore more accessible (Opara, 2021). Procedural concerns with regard to witness credibility and effective cross-examinations exist owing to the impersonal nature of remote interaction (Lindquist & Dauta, 2021). Some scholars point to the desirability of hybrid models that balance convenience and the richness of in person hearings.

Arbitration with Artificial Intelligence (AI)

The use of AI tools is growing in arbitration as tools for predictive analytics, document review and case management. Predictive algorithms use past cases to determine what might happen, assists parties in predicting what might happen and encourages settlement (ICC, 2022). But there's a problem of relying on AI, with its different means of arriving at the same answer, and the potential for algorithmic bias and transparency. Since technology is available for expanded use in complex labour disputes, one must remain vigilant to make sure technology supports rather than technology replacing human judgement in complex labour disputes that contain human elements such as sensitive issues (Lindquist & Dauta, 2021).

Labour disputes are also drafting preliminary ruling or suggestions using AI. While these tools become faster, they cannot apply the contextual factors necessary to help you navigate workplace dynamics, workplace ethics, or power imbalances in disputes.



Online Dispute Resolution (ODR)

Traditional labour arbitration has been replaced by ODR platforms that offer means to resolve entire disputes online. Tasks including document exchange, communication, even award delivery can be handled by these platforms. ODR facilitates efficiency as it deals with labour disputes especially those that are between parties from various regions thus rendering a logistical disadvantage. Although the use of these digital tools has the potential to create unequal exclusion for those who may not have limited access to technology or have poor digital literacy, these processes may be unfair and inaccessible.

Cyber security and Data Protection in Arbitration

When arbitration processes go online, confidentiality and integrity of proceedings become imperative. This new digital culture opens up risks of data breaches, unauthorised access, and hacking, all exacerbated by the use of the cloud in the form of cloud based tools, and online platforms. In response, arbitration institutions have added encryption and multi-factor authentication into their digital platforms (ICC, 2022). However, some critics maintain that the swift shift toward technology-based systems has prematurely outpaced the proper development of cybersecurity protocols, which, as a result, make these arbitration proceedings vulnerable.

Theoretical Frameworks

Technology Acceptance Model (TAM)

Davis (1989) developed the Technology Acceptance Model (TAM) that was later extended by Venkatesh and Bala (2008) adding in more behavioural factors. Based on these TAM, TAM suggests that users' perceived ease of use and perceived usefulness are the main factors that influence users to adopt new technology. Especially in labour arbitration, technologies like AI tools and virtual platforms are considered useful because they enable effective case management and reduce travel costs (Akanbi & Oyedele, 2023). For example, predictive analytics facilitate disputing parties to come up with the possible outcomes in quicker settlements (Opara, 2021). If such AI-powered case management systems are intuitive, it is going to be easier for arbitrators and legal professionals to use them, and for the hearings themselves to be virtual. Because ODR platforms ease document submission and communication, they simplify use, especially in cross-border disputes (Lindquist & Dauta, 2021). However, the present reluctance from arbitrators less at ease with new digital tools suggests a need for extensive training for all members of an arbitration panel. TAM explores the user interfaces, stakeholder concerns regarding additional complexity, and trust that these technologies will lead to improved outcomes. The model suggests that institutions must spend on learning to develop not only technical ability, but also trust in technology.

Diffusion of Innovation Theory (DOI)

Rogers (2003) proposed DOI theory, which explains the spread of the innovations across the social systems with early adopters, majority users, laggards. The theory identifies five characteristics influencing adoption: These are relative advantage, compatibility, complexity, outcome observability, and outcome trialability. For early adopters (Akanbi & Oyedele, 2023), virtual hearings eliminate geographic barriers and provide for a speedier process. In addition, ODR platforms streamline paperwork, making them competitive to traditional processes.



How compatible AI and remote tools are with existing legal and regulatory frameworks will determine when they are adopted. In addition, many of the arbitration bodies have had to amend its procedural rules to allow for digital hearings, which in turn affect their adoption rate (ICC, 2022). Hybrid hearings gradually became part of the pandemic process which gave an opportunity to see how virtual arbitration works, and more institutions are warming up to the technology. Countries like Nigeria have used these systems to solve labour disputes as quickly as possible (Opara, 2021). The DOI theory identifies the diffusion of the technology in the arbitration community and articulates how early adopters influence a wider acceptance. But the theory also helps explain the resistance of some practitioners to change because of worries about procedural fairness and technical issues.

In the two frameworks — TAM and DOI — it is majorly emphasised to find a balance between innovation and usability. Individual acceptance is a focus of TAM, advocating the necessity of technological training and platform design in order to facilitate ‘smooth’ adoption. In contrast, DOI explains how adoption spreads from early experimentation, regulatory alignment and peer influence on the system level. These theories taken together offer a full theory of how technological advances are incorporated into labour arbitration.

Review of Previous Research

Virtual hearings, accelerated initially during the COVID-19 pandemic, have now become a permanent part of labour arbitration, as empirical studies demonstrate. According to the statistics from the International Chamber of Commerce (ICC), 93 per cent of survey respondents promote remote proceedings because they are cost effective and convenient while saving travel costs and reducing the dispute resolution time (ICC, 2022). Since hybrid formats that combine in person and virtual elements have emerged as a way to retain the advantages of both as solutions to complex labour disputes where in person interactions may still be required (Akanbi & Oyedele, 2023), hybrid formats have become the order of the day in most workplaces. The research shows how much dependence is being introduced on digital platforms for managing arbitration cases. They streamline document submission, scheduling and communication, and facilitates more unambiguous coordination between arbitrators and parties. ICC’s 2022 report highlights such systems as being used to maintain data integrity and ensure encrypted sharing and two or multi-factor authentication for security such as in online arbitration (ICC, 2022). Furthermore, Opara (2021) also found that Nigerian legal practitioners who utilise these platforms recorded an improved administrative efficiency and shorter delays in processing of labour disputes.

Empirical evidence shows us that there is a persistent digital divide despite the benefits of virtual and digital arbitration tools. The lack of virtual hearings in particular in poor areas in particular developing countries can lead, if not enough infrastructure in those areas, to fairness and exclusion being questioned (Akanbi & Oyedele, 2023). The disparities must be mitigated and arbitrators are urged to provide customised procedural orders to mitigate these disparities including extra time for those who face technological challenges, hybrid options, or that make your participation possible virtually (Lindquist and Dauta 2021). Research warns that while technology can reduce inefficiency, the risk to procedural fairness remains. As artificial intelligence (AI) used more commonly in documents, to analyse and make decisions, risks incorporation of biases and undermining objectivity. Lindquist and Dauta (2021) propose that labour arbitrators calibrate the use of technological tools with human judgement in order to add, rather than undermine, critical thinking in the labour arbitration process.



The empirical literature is strong in stressing the need for technological literacy in arbitrators and legal practitioners. According to Opara (2021), arbitral bodies are starting to incorporate technology competency into their ethical principles, and therefore the professional ought to keep up with new tools and approaches. Recommendation has also been made for ongoing training programs to capacitate stakeholders to utilise these technologies effectively for effective adoption and reduced resistance (ICC, 2022).

Critical Analysis

There are substantive opportunities and challenges to the study of the impact of technological advancements in labour arbitration. On the contrastive side, some of the studies stress that digital arbitration tools, like virtual hearings, or online case management systems, are becoming more efficient, accessible and cost-effective (ICC, 2022; Opara, 2021). These tools make the proceedings faster and cut down expenses on travel especially in the cross border labour disputes (Akanbi & Oyedele, 2023). Hybrid hearings have been seen as an effective compromise, bringing the insights afforded by in person interaction and leveraging virtual technology. The literature, however, also provides some concerns about fairness, transparency and inclusivity. Digital exclusion is presented as presenting risk (Akanbi & Oyedele, 2023) by which parties in underdeveloped regions or those with limited access to technology are unable to fully participate in virtual hearings. At the same time, AI tools and predictive analytics have also improved case management — but they also bring new risks: algorithmic bias, and the risk of reliance on (over) automated processes (Lindquist & Dauta, 2021). The empirical evidence suggests that procedural fairness might be circumvented if these tools are not reigned in.

Many arbitration bodies have started adopting technology competency as part of their professional guidelines and accordingly encouraging arbitrators to enhance their digital skills (Opara, 2021), in terms of ethical and practical implications. However some of them practitioners are resistant to change therefore need more training to adopt. In a world where technology can provide efficiency but not the ability to fully replace the nuances of human interaction and judgement in situating complicated labour disputes (Lindquist & Dauta, 2021), they have more to do.

METHODOLOGY

This research design employs a qualitative approach grounded in secondary data from professionally published journals, books and arbitration case reports. The research, which is based on studies and reports, is published between 2019 and 2024 and considers Nigeria case studies and arbitration practices. Data collection used the systematic review of existing literature and case studies. Themes of efficiency, fairness, and access in technology driven arbitration processes were extracted using content analysis.



RESULTS

The findings from the literature review indicate the following:

- **Increased Efficiency:** Digital tools speed up case management and reduce delays.
- **Accessibility:** Remote hearings broaden access, particularly for parties in remote locations.
- **Challenges with Fairness:** Technical issues may undermine procedural fairness, especially if one party has better access to technology.
- **Security Concerns:** The use of online platforms exposes sensitive arbitration data to cybersecurity threats.

Technological Advancement	Impact on Arbitration
Remote Hearings	Improved access but raises fairness issues
AI-Assisted Decision Tools	Enhanced efficiency but risks bias
Digital Case Management	Streamlined processes but requires training

DISCUSSION

This study finds a complicated relationship between technological advances and labour arbitration. Digital tools, including virtual hearings, artificial intelligence (AI), and online dispute resolution (ODR) platforms, have all made our affairs more efficient, but also more challenging. Implications of these findings are considered in this section, taken together with previous research and provided with practical and policy implications.

New Complexities but Efficiency

Arbitration process improves its ease with technological tools such as reduction of paperwork, automation of administrative tasks and remote hearings. Virtual platforms free up arbitrators and disputing parties from geographical constraints and allow them to manage cases more efficiently by holding hearings without constraints. Given that, it is particularly important for labour disputes which necessitate parties from different regions (Opara, 2021). But the technologically gained speed has to be tempered with the requirements of procedural fairness as technical glitches or even lack of familiarity with a digital platform can derail the process. The ICC (2022) points out that digital solutions make arbitration much easier but on the other hand they impose heavy training of arbitrators and participants so as to utilise them efficiently. The finding suggests that technology literate stakeholders are important to overcome challenges introduced through new tools.

The Digital Divide versus Accessibility and Inclusion

One of the most rewarding advantages of technological arbitration is improved accessibility. Remote hearings eliminate the necessity for such travel for participants in rural or underserved areas who may otherwise not be able to afford it. The 'digital divide' is still a frequent concern; some people, or smaller organisations, are not able to get the right infrastructure (Lindquist &



Dauta, 2021). The discrepancy of such power baselines can result in power imbalances that favour more resourced parties over those without technical capacity. Researchers highlight that protocols need to be designed by arbitrators and institutions for parties with limited access to follow, for example, offering technical assistance, or hybrid models that allow both partial physical presence (Akanbi & Oyedele, 2023). Otherwise, technological arbitration might not help decrease inequality, but at least increase it even further.

Applying AI tools and techniques in Decision-Making: Legal Concept of Procedural Fairness and Neutrality

The adoption of AI into arbitration procedures poses numerous ethical issues regarding the arbitration procedures. Arbitrators can be helped in the main analysis by applications of artificial intelligence involving predictions as well as by auto-review systems for documents (Lindquist & Dauta, 2021). However, with such tools, issues to do with bias and transparency arise because algorithms are only as good as the data used to train them. It is important to make sure that the arbitrators are kept overseeing to avoid much influence on the final decision that is made. In addition, directions such as psychological influence of virtual hearings which may affect presentation of parties' matters must also be looked at. Overall, it has been pointed out that participants may feel less involved in the work process or experience difficulties with body language in remote arrangements, which may impact on estimated fairness of proceedings (ICC, 2022).

Security and confidentiality are two of the biggest challenges of implementing a healthy solution. This is especially so because disputes that are ventilated through digital platforms also have attendant issues to do with data protection and privacy. Hacking attacks may endanger personal information regarding labour conflicts including arbitration proceedings and participant's data. According to Lindquist and Dauta (2021) to mitigate such threats institutions have to employ actions such as encryption and other secure data storage procedures. Furthermore, credibility of arbitration depends on the reliability of the online platforms the transactions go through. Arbitrators require an understanding of the technologies they employ to manage digital evidence to gain admissibility throughout the process (Akanbi & Oyedele, 2023). Thus, a number of opportunities and risks are linked with technological progress in the sphere of labour arbitration. There is much scope for enhancing efficiency and access, and conflicts have been highlighted as important sources of useful information, yet difficulties with equity, democracy, and privacy cannot be ignored. Such circumstances highlight the need for a preventive approach to guarantee technology to be a facilitator not a hindrance to arbitration processes.

IMPLICATIONS OF THE FINDINGS

The findings suggest that arbitrators and policymakers need to develop frameworks to ensure procedural fairness in remote hearings. This includes providing technical support for participants and establishing clear protocols for using AI tools. Employers and labour unions should collaborate to address the digital divide to avoid disadvantaged workers.



CONCLUSION

New technologies have benefited the labour arbitration process by increasing speed, openness and flexibility, but at the same time introduced several issues connected to impartiality, digital competence, and data protection. Remote hearings and the incorporation of AI practices have constantly facilitated quick resolutions in the disputes, cutting on costs and reaching a wider clientèle during the current COVID-19 pandemic. However, such innovations have also made available new forms of risk like the digital divide, cybersecurity risks, and the problematic bias of Artificial Intelligence in decision making (Lindquist & Dauta, 2021; ICC, 2022). One liberal learning is the requirement of procedural protection mechanisms that will not allow technology to erode the principles of procedural fairness. Due to the technical difficulties of virtual hearings and proceeding, policymakers, and arbitration institutions must establish some standards for virtual hearings that will address the participants' access to the materials and resources. Also, arbitrators should have supervision over the use of AI tools so that technology cannot give bias and dictation over the arbitration proceedings.

Hoping for more, the future of labour arbitration will greatly rely on how innovativeness and equity will be addressed by the leading stakeholders; the employers, unions, arbitrators or even the policy makers. For example, efforts to develop more blended formats of the delivery, such as those involving both face-to-face and online learning, may alleviate some of the issues relating to procedural rationality while maintaining very important issues to do with access. Subsequent research works should focus on technologies such as blockchain to secure information and artificial intelligence automatic mediation software to elaborate on the arbitration process (ICC, 2022). Nevertheless, there remains profound opportunities for progress associated with an increasing integration of technology into the system of labour dispute resolution worldwide. But, such endeavours essentially presuppose flexibility that aims towards sustaining change and fairness in a manner that makes it relevant for all the stakeholders in technology without jeopardising the essence of arbitration.

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