

AI IN CROSS-BORDER PROCUREMENT: LAW AND ETHICS

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Abstract: *The dynamic digital transformation of public procurement via Artificial Intelligence (AI) creates a critical regulatory disparity with the World Trade Organization Government Procurement Agreement (WTO GPA), which mandates transparency and non-discrimination. This study analyzes the ethical and legal conflicts arising from the cross-border application of high-risk AI systems. The core issue is an ethical and legal trilemma: algorithmic bias, opacity ('Black Box'), and the need for Explainability (XAI). These generate latent discrimination, violating GPA Article IV and undermining the right to an effective remedy (Article XVIII). A comparative analysis of international regulatory models (EU, UK, US, South Korea) shows convergence on mandatory Human-in-the-Loop (HiL) control and stricter algorithmic accountability. Traditional post-hoc XAI methods are insufficient for legally meaningful justification in high-risk sectors. The paper justifies transitioning to the 'Justified AI' (JAI) standard, ensuring inherent interpretability as the sole mechanism for guaranteeing digital accountability and full compliance with due process in cross-border public procurement.*

Keywords: *public procurement, artificial intelligence, algorithmic bias, regulatory lacuna, ethics, cross-border procurement.*

1. Introduction

At the current stage of development of the public procurement (PP) sector, a permanent dynamic digital transformation is taking place, driven by the implementation of artificial intelligence (AI) technologies. The application of AI systems in this sensitive sphere highlights the need for enhanced regulatory oversight and raises the issue of a significant regulatory and ethical disparity between the technical efficiency of automated processes and the fundamental principles of international trade law. The global legal consensus enshrined in the WTO GPA imperatively establishes the need to conduct procurement procedures on the basis of absolute transparency, non-discrimination and the assurance of fair competition. The erosion of these principles generates systemic risks to the integrity of the global trade architecture.

Although European and global practices demonstrate progress in digitalisation, even the most advanced architectures face existential challenges in integrating AI, stemming from its technical nature (the 'black box' phenomenon). This has the potential to generate new, latent forms of discrimination (*algorithmic bias*) and undermine institutional transparency, thereby undermining the GPA's core objectives regarding the liberalisation of cross-border markets. Consequently, an epistemological contradiction arises between the technical effectiveness of AI and the legal accountability of its decisions.

2. Problem Statement

Cross-border public procurement refers to the process of sourcing and purchasing goods, services, or works by government entities from suppliers located in other countries. This international market is regulated by the WTO GPA, which covers a massive annual market estimated at approximately \$1.7 trillion. The GPA is fundamentally important as it

aims to liberalize trade by ensuring signatory Parties adhere to cornerstone principles: non-discrimination (mandating equal treatment of foreign and domestic suppliers) and procedural transparency. Despite its critical role in global trade, the market is inherently complex for foreign access due to varying national legal systems and procedural requirements. The introduction of high-risk AI systems further exacerbates these complexities by introducing new, latent barriers to non-discriminatory access, which directly challenges the GPA's core mandate.

The *research* problem, situated at the critical intersection of public law, ethics and the digital economy, lies in the systematisation and critical analysis of ethical and legal conflicts and jurisdictional disparities arising from the cross-border application of high-risk AI systems in the public procurement sector, which falls under the regulatory scope of the WTO GPA. The relevance of the study is heightened by the existence of international regulatory lacunae regarding the assurance of algorithmic integrity

The aim of this study is:

1. To identify systemic regulatory gaps in existing international legal standards concerning the cross-border application of AI in public procurement.
2. To justify the need to develop a comprehensive framework of harmonised principles that will ensure *legal explainability*, institutional *accountability* and *validation* of AI decisions in accordance with the fundamental principles of the WTO GPA, in particular non-discrimination and transparency.

3. Method

The study employs the method of critical systems analysis and the comparative law method. The main approach consists of the systematisation and critical analysis of ethical and legal conflicts and jurisdictional disparities arising from the cross-border application of high-risk AI systems in the public procurement sector, which falls under the regulatory scope of the WTO GPA.

The study covers an analysis of the theoretical foundations, institutional priorities and international legal responses to the identified challenges. In particular, a detailed comparative analysis of the regulatory models of four key jurisdictions and international instruments has been conducted:

- European Union: the Artificial Intelligence Regulation (EU AI Act, Regulation (EU) 2024/1689) and the General Data Protection Regulation (GDPR, 2018).
- United Kingdom: National AI Strategy and public procurement reform (Procurement Act, 2023).
- United States of America: *A laissez-faire* approach and key federal initiatives (TRUMP AMERICA AI Act, 2026).
- South Korea: 'Basic Act on the Development of Artificial Intelligence and the Establishment of a Trust Framework' (AI Basic Act, 2026).

The comparative law approach has been used to identify systemic regulatory gaps (*regulatory lacunae*) and to justify the need to develop a comprehensive framework of harmonised principles that will ensure the legal explication and institutional accountability of AI decisions.

4. Results

The contemporary academic community, conducting research at the critical intersection of jurisprudence, ethics, economics and AI technologies, has systematised the key challenges arising from the integration of AI systems into the public sector. Theoretical research in this field centres on interrelated operational and regulatory issues that form the

core of the *Ethical-Legal Trilemma*: Algorithmic bias; Opacity, known as the '*Black-Box Problem*'; the need for explainability (*Explainable AI*, XAI).

These challenges are particularly acute in the field of public procurement, where the introduction of AI systems designed to prevent fraud and systemic risks, or to provide advice to specialists, may lead to regulatory gaps. In view of this, this section will analyse the theoretical foundations, institutional priorities (in particular, the implementation of non-price criteria and staff training in the field of AI) and international legal responses to the challenges outlined, covering a wide range of jurisdictions and international standards.

Conceptualisation of Algorithmic Bias in public procurement research and global academic developments

The problem of algorithmic bias is a critical ethical threat that arises when the results of an AI system systematically and unfairly deviate from objective indicators. The systemic risk inherent in AI necessitates a coordinated global regulatory response; this call for harmonized international standards is reinforced by research focusing on strategic directions for building AI-enabled economies (Isayev, 2025), which highlights the strategic importance of aligning national policies with global AI governance models to prevent fragmentation. In the context of public procurement, this bias is institutionalised through the use of historical data (*Data Provenance*) reflecting past practices, where certain groups of suppliers (in particular, foreign ones) may have had limited access to markets. The complexity of this ethical-legal dilemma is heightened by the recognition that AI can act as a "double-edged sword," posing significant threats to institutional and corporate reputation through issues like bias and lack of transparency (Ağtaş, 2025), which ultimately undermines the trust vital for fair procurement.

Martín-Ortega's article (2018) confirms the global trend towards using public procurement as a powerful tool for advancing ethical and social goals, in particular the protection of human rights in global supply chains, which corresponds to the inclusion of non-price criteria (MEAT) in tenders. She emphasises that the state, as an economic actor, cannot delegate its duty to protect human rights, which directly correlates with study's requirement for the imperative enshrinement of human responsibility (*Human-in-the-Loop*, *HiL*). Since the assessment of such complex social criteria by automated AI systems increases the risk of algorithmic bias, this study highlights the legal necessity of ensuring the impartiality and justifiability of AI (*Justified AI*, *JAI*). Thus, to ensure full compliance with the *GPA* principles (particularly non-discrimination), AI systems that assess social criteria must be fully transparent and auditable so that the state can fulfil its duty of due diligence.

Olaitan, S.'s paper '*Algorithmic Governance and the Redefinition of Bureaucratic Accountability in Digital States*' (2025) analyses the transformation of public administration under the influence of AI, where the opacity of decisions creates critical gaps in accountability and poses a threat to due process. The study emphasises that algorithmic governance, despite promises of efficiency, creates paradoxical 'dark' consequences, such as bias and dependency. The authors propose a revised hybrid accountability model, which is critically important for high-risk areas such as public procurement. This model imperatively requires the implementation of auditability, appealability and mandatory *human-in-the-loop* control, which is fundamental to ensuring the legitimacy of automated decisions and compliance with international transparency standards.

The challenges of introducing high-risk AI into the public procurement sector are the subject of focused research at leading academic and advisory center. A prime example is the work of Georgopoulos, A., Assistant Professor of Public and European Law at the University of Nottingham. He heads the Research Unit for Innovation, AI, Strategic and Defence Procurement, and also advises international organisations (such as the OECD and the World

Bank) on regulatory reform in the field of public procurement and new technologies. His work focuses on the critical intersection of European law, procurement policy and AI, highlighting that the targeted use of procurement mechanisms can be an effective tool for regulating AI systems.

Research confirms that, whilst AI provides unprecedented efficiency in auditing and data analysis processes, it may inadvertently incorporate biases, thereby jeopardising ethical standards. In view of this, the academic community, notably Munoko, I., Helen Brown-Liburd, H., Vasarhelyi M. (2020), emphasise that such auditing must become a key mechanism for ensuring the accountability and integrity of algorithms operating in the public sector. Ethics-oriented auditing enables organisations to verify claims regarding their automated decision-making systems and helps to overcome the 'Black Box Problem', which is a prerequisite for ensuring the legality of cross-border procurement procedures.

Furthermore, the work of Bergmann, C. (2023) explores how public procurement can be used as a tool to promote ethical standards in supply chains, which directly relates to the need to control *bias* in systems that assess social and environmental criteria. In the realm of the practical implementation of artificial intelligence in procurement processes, academic research and institutional initiatives (notably the OECD) emphasise that the primary motivation is to enhance operational efficiency, reduce administrative costs, and create more dynamic and responsive decision-making mechanisms. However, this process is accompanied by significant regulatory risks, as the implementation of high-risk AI systems may lead to the unintended incorporation and scaling of subjective assessments, bias and opacity - the very issues that such systems are designed to minimise.

To mitigate these risks and ensure algorithmic integrity, it is critical to move from abstract principles to concrete technical and contractual tools. For example, the EU employs integrated *XAI-Fuzzy* methodologies which, by combining high-performance models (such as LightGBM) with explainability mechanisms (SHAP), enable policymakers and regulators to conduct in-depth analyses of market realities and ensure more nuanced oversight of the integrity of tender procedures, going beyond simple descriptive statistical data. Furthermore, at the institutional level, the European Commission has developed *Model Contractual Clauses for AI Procurement (MCC-AI)*. These clauses serve as a framework document for public procurers, obliging suppliers of high-risk systems to adhere to heightened standards, including continuous risk management throughout the entire AI lifecycle, detailed technical documentation and audit mechanisms. Thus, the procurement of AI by public authorities is transforming from a purely technical transaction into a process requiring the deep integration of legal, ethical and social considerations to ensure compliance with fundamental rights and GPA standards.

Legal Responses to Opacity and XAI: A Comparative Analysis of Regulatory Models

The opacity of complex machine learning models, known as the 'Black Box Problem', is a fundamental technical obstacle to compliance with legal norms requiring transparency. International legal thinking responds to this by introducing *the Right to Explainability* through a series of regulatory acts that demonstrate significant regulatory divergences:

The European Union Model. A fundamental element of the international regulatory landscape defining the approach to high-risk AI is the European Union Model, enshrined in the Artificial Intelligence Regulation (EU AI Act, Regulation (EU) 2024/1689), and the General Data Protection Regulation (GDPR). The EU has adopted a horizontal, multi-tiered approach based on risk assessment, ensuring both safety and respect for fundamental human rights.

The AI Regulation, which entered into force on 1 August 2024, classifies AI systems used in the public services and administration sectors as high-risk. This includes systems used in public procurement, particularly those used for assessing qualifications or the automated selection of suppliers, as they may pose a serious risk to fundamental rights.

Suppliers and developers of high-risk systems are subject to strict requirements, which will come into force in phases, notably from August 2026. These include the need to use relevant, accurate and unbiased datasets for model training, as well as the implementation of a *data governance* system to minimise the risks of discrimination. To ensure transparency and the possibility of audits, systems must provide automatic logging and *record-keeping* of AI operations, and suppliers are required to register systems in the EU database. A key requirement is the provision of *Human-in-the-Loop (HiL)* supervision, which must be operational rather than theoretical. This means that the human operator must be empowered to intervene, override or revoke a decision made by the AI, thereby ensuring that human control over the system is maintained. In addition, legal clarification and auditing are required: suppliers are obliged to carry out *Fundamental Rights Impact Assessments* before putting the system into operation, and public procurers have the right to request and disclose system information for the purposes of auditing.

The European Commission, with a view to implementing the requirements of the AI Regulation for the public sector, has developed *Model Contractual Clauses for AI Procurement (MCC-AI)*, which were updated in 2025 to take account of the Regulation that had already been adopted. These clauses are a key tool as they translate regulatory obligations into contractual ones, integrating the requirements of the MCC-AI-High-Risk Regulation (such as risk management, conformity assessment, technical documentation, and ensuring accuracy, reliability and cybersecurity) directly into the supplier's contractual obligations. In this way, MCC-AI establishes a *de facto benchmark* for responsible AI procurement, enabling public authorities to control not only the final product but also the process of its development, monitoring and adaptation. Furthermore, MCC-AI-High-Risk grants public authorities extensive audit rights and requires the supplier to cooperate in conducting an assessment of the impact on fundamental rights.

The GDPR (General Data Protection Regulation, 2018) established the primary legal precedent regarding automated decision-making (ADM). Article 22 of the GDPR grants the data subject the right not to be subject to a decision based solely on automated processing, including profiling, which produces legal effects concerning the individual or significantly affects them. Although case law disputes the direct existence of a 'right to an explanation' as a separate right, the GDPR imperatively requires the provision of 'meaningful information about the logic involved'. This is confirmed by case law: the Court of Justice of the European Union (CJEU), in a judgment delivered in February 2025, confirmed that data controllers must provide concise and comprehensible explanations regarding the "procedures and principles actually applied" (2025). In doing so, the CJEU emphasised that it is not sufficient simply to disclose a complex mathematical formula (algorithm), as this does not constitute a "meaningful explanation". The GDPR's requirements regarding transparency and the right to HiL are fundamental and complement the strict technical requirements of the AI Regulation. In particular, Article 86 of the AI Regulation reinforces this requirement by establishing the right to receive from the "clear and meaningful explanations regarding the role of the AI system in the decision-making process and the key elements of the decision taken".

This integrated approach (GDPR + AI Act) is the most restrictive and focused on safety and human rights, creating a single and binding standard for the cross-border application of AI in the public sector.

The UK's regulatory model: a pro-innovation approach versus public procurement reform. The UK has adopted a fundamentally different, pro-innovation approach to the regulation of artificial intelligence, which contrasts with the European Union's rigid, sector-specific model enshrined in the EU AI Act. The UK's strategy, set out in the *National AI Strategy* in September 2021, is more adaptive and flexible, aiming to create the most innovation-friendly regulatory environment in the world. The main focus has shifted from one-size-fits-all, restrictive legislation to ethical principles, accountability, technical standards and regulatory 'sandboxes', so that regulation can respond swiftly to rapid changes in technology. To realise this vision, the government has established key institutional mechanisms. The Office for Artificial Intelligence (OAI) is responsible for developing overarching AI policy and coordinating government efforts, whilst the Centre for Data Ethics and Innovation (CDEI) is an expert body focusing on the trustworthy use of data and AI in the public and private sectors and is responsible for the AI assurance roadmap (AI assurance roadmap). In addition, the DRCF AI and Digital Hub (*Digital Regulation Cooperation Forum hub*) operates, providing free advice to innovators, helping them navigate complex cross-regulatory requirements (data protection, competition, consumer rights), which is an example of sectoral and coordinated regulation.

Following its withdrawal from the European Union, the UK has completely overhauled its public procurement legislation. Regulations previously based on the implementation of the 2014 EU Directives (in particular, the Public Contracts Regulations, 2015) have been replaced. *The Procurement Act* (2023), together with secondary legislation such as *the Procurement Regulations* (2024), came into force on 24 February 2025. This Act established a new, unified and more flexible regulatory framework for England, Wales and Northern Ireland, whilst the old rules continue to apply to procurements that were initiated prior to that date.

The new procurement regime aims to simplify procedures, increase transparency and stimulate innovation. This is in line with both domestic objectives and international obligations under the WTO GPA (to which the UK is a Party). In particular, the Procurement Act 2023 significantly strengthens requirements for the collection and publication of data on supplier performance and contract compliance, which is critical in the context of AI systems that require structured and reliable data for training:

Publication of payment compliance notices (Section 69 - *Payments Compliance Notices*): requires public bodies to report on the average time taken to pay suppliers' invoices, demonstrating compliance with the 30-day payment deadline;

Assessment of Contract Performance (Section 71): requires recording information on suppliers' performance against key performance indicators (KPIs) for major contracts (over £5 million) and documenting instances of contract breaches. These new, detailed requirements for the collection and publication of performance data create a robust foundation for training AI systems, which can use this information for automated risk scoring and qualification. The relevance of the Act is confirmed by its active discussion in international forums; in particular, the UK presented it at a small group meeting on SMEs within the framework of the WTO GPA Work Programme in March 2025.

To stimulate innovation, Innovate UK is transforming its approach to public procurement, replacing the SBRI (*Small Business Research Initiative*) with the Contracts for Innovation Programme. This programme offers innovative organisations 100% funded R&D contracts to address complex public sector challenges. In addition, the Crown Commercial Service (CCS) has developed the AI Dynamic Purchasing System (DPS), which includes a baseline ethics assessment, requiring suppliers to commit to ethical and technical compliance with tenders.

Despite the innovative nature of the approach, the UK's AI regulatory model, which is guided by principles rather than rigid rules, emphasises the need for AI to remain merely a supporting tool. The government emphasises the mandatory verification of all results and works closely with organisations such as The Alan Turing Institute to update guidance on AI ethics and safety in the public sector. This is in line with the overarching principle of the UK strategy - not to impose prescriptive restrictions, but to steer the process of AI deployment through accountability, auditing and technical standards that help protect society and build trust.

The United States of America (US) model: decentralisation of regulation and the conflict between state and federal regulations

The United States of America traditionally takes the most lenient stance (*laissez-faire model*) on the regulation of artificial intelligence, emphasising the need not to stifle innovation and to ensure the global leadership of American companies in this field. This 'light-touch' philosophy shapes a decentralised approach, where regulation takes place largely at state level or through the use of existing industry mechanisms, rather than through the creation of new federal regulatory bodies.

The federal government is actively working to remove what it considers to be 'burdensome' barriers and 'excessive state regulation' (Hastings P. LLP, 2025). This policy includes the removal of previous minimum safeguards for so-called high-risk AI, which were viewed as 'barriers' to innovation. To this end, the *National Policy Framework for Artificial Intelligence* was issued in March 2026. This document, which is a non-binding "wish list", outlines seven key pillars focused on protecting the rights of Americans, encouraging innovation, and establishing a "minimally burdensome national standard". The framework calls on Congress to utilise existing industry standards and regulatory bodies with subject-matter expertise, rather than creating new federal structures to regulate AI (Gibson Dunn, 2026). It also emphasises that federal policy should pre-empt state laws, which create a 'fragmented patchwork of state regulations' and may 'hinder our national competitiveness' (Trump Administration, 2025a). Despite the absence of a comprehensive federal law on AI, the regulatory landscape in the United States is characterised by significant activity in the development of comprehensive legislative initiatives (Latham & Watkins, 2026). One of the most comprehensive federal legislative drafts currently on the table is the TRUMP AMERICA AI Act (Blackburn, 2026), introduced as a discussion draft by Senator Marsha Blackburn (R-Tennessee) on 18 March 2026 (Jones Walker, 2026). This 291-page document signals a significant move towards unified federal regulation structured around four key focuses (the '4 Cs'): children, creators, conservatives and communities (Trump Administration, 2025b).

The draft proposes the creation of a new federal liability framework that goes beyond traditional legal approaches. It mandatorily establishes a "general duty of care" for developers of AI chatbots, requiring them to exercise "reasonable care in the design, development and operation" to effectively prevent foreseeable harm to users (Jones Walker, 2026). This provision aims to increase developers' liability by classifying AI systems as products subject to enhanced legal scrutiny under the principles of defective design, failure to provide adequate warnings, or dangerous products. It is important to note that Blackburn's bill creates its own comprehensive federal liability regime, which exists in parallel with another key bipartisan initiative—the AI LEAD Act (*Aligning Incentives for Leadership, Excellence, and Advancement in Development Act*), introduced by Senators Durbin (D-Illinois) and Hawley (R-Missouri) on 29 September 2025, which also establishes a federal cause of action in cases concerning liability for AI products. The TRUMP AMERICA AI Act

places particular emphasis on the issue of algorithmic bias and its direct impact on public procurement. Title VIII of the bill requires annual independent third-party audits of high-risk AI systems to identify any form of discrimination based on worldview or political affiliation (Blackburn, 2026). Furthermore, Title XVI codifies the Presidential Executive Order (December 2025) restricting federal agencies' procurement of Large Language Models (LLMs) and other AI systems. Under this provision, procurement may only be made from suppliers whose models comply with 'unbiased AI principles' (Trump Administration, 2025b). These principles include such mandatory criteria as truthfulness, historical accuracy, scientific objectivity and ideological neutrality. Thus, Blackburn's bill creates a strict regulatory framework that directly impacts the market for AI services to the federal government and sets a precedent for assessing algorithmic neutrality in the public sector.

The South Korean Model: 'Basic Act on the Development of Artificial Intelligence and the Establishment of a Foundation of Trust' (AI Basic Act, 2026)

South Korea has become a pioneer on the Asian continent and one of the first jurisdictions in the world to introduce a comprehensive law to regulate the safe use of AI, despite the global focus on curbing innovation. The law, known as the 'Basic Act on the Development of Artificial Intelligence and the Establishment of a Trust Framework' (AI Basic Act, 2026), adopted in 2026, was designed to support innovative growth whilst establishing the necessary ethical and social safeguards.

The core philosophy of the law is to create an '*AI Trust Environment*'. This is achieved through a flexible approach that avoids rigid, one-size-fits-all regulation, similar to the EU AI Act, and instead utilises risk management tools and promotes transparency.

The concept of 'high-risk AI' and mandatory human oversight

A central element of the law is the introduction of the concept of 'high-risk AI' in areas that could significantly affect people's rights, freedoms, daily lives, safety or health. Unlike the strict list characteristic of the EU, the Korean model uses criteria that allow regulatory bodies (for example, in the fields of public procurement, healthcare or finance) to determine the risk threshold themselves.

For such high-risk systems, a key requirement is established: mandatory human oversight or human feedback. This mechanism is intended to ensure that:

- The final decision rests with a human: in critical situations, such as the automatic disqualification of a supplier in public procurement or the making of a medical diagnosis, a human has the right to review, amend or reject a decision generated by an AI system.

Audit and logging: Decisions made by AI in high-risk areas must be fully audited and logged, in line with international transparency requirements (e.g. Article VII of the GPA on the transparency of procurement procedures).

Ethical guidelines: developers are required to adhere to ethical guidelines, preventing algorithmic bias (*AI Bias*) and ensuring the fairness of results.

The second pillar of Korean regulation is ensuring transparency regarding the origin of AI-generated content. The law mandates the labelling of generated content with special *watermarks* or other identifying marks. This requirement is particularly relevant for:

- synthetic media (deepfakes): labelling is necessary to prevent the spread of false information and protect public trust;
- automated reports and documents: In the field of public procurement, this allows for a clear distinction between documents prepared by an AI model (for example, for the evaluation of tender proposals) and those created by a human procurement officer, which is an element of XAI (Explainable AI).

The Korean approach thus positions itself as a balanced model that encourages technological development (promoting innovation through the absence of excessive, blanket regulation), whilst simultaneously introducing targeted, mandatory control and transparency mechanisms in areas where the risk to citizens is highest.

Harmonisation of international standards and the role of expert organisations: bridging the regulatory gap on artificial intelligence in public procurement

The WTO GPA is a key international multilateral agreement establishing the principles of non-discrimination, transparency and procedural fairness in cross-border public procurement. Although the GPA clearly recognises the importance of ensuring the integrity and predictability of public procurement systems for the effective management of public resources and the prevention of corrupt practices, its current text contains a *regulatory lacuna* regarding the ethical governance of AI. This gap arises against the backdrop of a global trend towards *digital accountability*, as the GPA's traditional *formal transparency* requires modernisation in line with digital governance standards.

In his seminal work 'Combatting Corruption and Collusion in Public Procurement: A Challenge for Governments Worldwide' (2024), Anderson, R. provides a detailed analysis of the causes and consequences of corruption and collusion among suppliers in the public procurement sector. Corruption, which involves decisions favouring selected participants in exchange for bribes, and collusion, which involves the manipulation of tenders, often reinforce one another.

Anderson's work highlights the need for a multifaceted and coordinated approach (strengthening anti-corruption legislation and enhancing the resilience of procurement systems) to combat these risks. This requirement is critical for the application of AI: if a public procurement system is not resilient to corruption, the introduction of AI may merely automate and scale up existing biases and fraudulent schemes, rather than eliminating them.

Nicholas, C. of the United Nations Commission on International Trade Law (UNCITRAL) plays a key role, through her academic and practical work, in shaping the legislative and policy framework for the harmonisation of international procurement standards. Unified standards are a necessary prerequisite for the implementation of uniform rules for ethical AI. In the context of modernising the GPA, proposals include the creation of structured fields that support machine-readability, which is an essential foundation for any unified AI system. This includes new mandatory fields such as Contract ID, Funding Code and Review Criterion, which do not extend the obligations of the GPA but modernise the transparency infrastructure in line with digital standards.

The conflict between non-discrimination and algorithmic bias (AI Bias) in cross-border public procurement

The principle of non-discrimination is a cornerstone of international trade law, in particular the WTO GPA. Article IV of the GPA explicitly requires each Party to accord to goods, services and suppliers of any other Party treatment no less favourable than that accorded to domestic suppliers (the principles of national treatment and most-favoured-nation treatment, MFN).

The use of high-risk AI, for example, for automated risk scoring, pre-selection or the assessment of suppliers' qualifications, creates *latent discrimination*, which is embedded in the mathematical model as early as the training stage. This problem is known in academic circles as '*disparate impact*' - where a formally neutral algorithm produces disproportionately negative, discriminatory or unfair outcomes for certain groups or geographical jurisdictions.

If an AI system trained on historical data from a single jurisdiction unconsciously favours suppliers with local certifications or a long history of successful contracts within the national system, this could be interpreted as a breach of Article IV of the GPA. Such a practice creates a hidden barrier for foreign suppliers who may not have the relevant ‘digital history’. International experts (such as O’Neil, C. in her research, ‘Weapons of Math Destruction’, 2016) emphasise that these models, which are opaque and unregulated, exacerbate inequality and codify bias.

This conflict is critically exacerbated by the global shift towards strategic procurement, which requires the introduction of non-price criteria (MEAT – Most Economically Advantageous Tender). These criteria, such as environmental sustainability, social responsibility or *supply chain resilience*, are complex and require the assessment of subjective parameters. Such requirements, for example, the introduction of mandatory non-price sustainability criteria under the EU Net-Zero Industry Act (NZIA), significantly increase the risk of algorithmic bias. The *supply chain resilience* criterion, when assessed automatically by AI, could be configured to favour suppliers with diversified or European supply chains, potentially discriminating against bids from third countries – GPA Parties.

The ‘Black Box’ problem and algorithmic explainability (XAI)

The fundamental ‘black box’ problem in the application of complex AI models, such as deep learning, creates a direct obstacle to compliance with the GPA’s requirements on transparency (Article VII) and the effective right of appeal (Article XVIII) (WTO GPA, 2012). When high-risk AI makes a critical decision, for example, automatically disqualifying a supplier, the opacity of its internal processes makes it impossible for the supplier to verify the fairness and impartiality of that decision. This directly violates the fundamental principle of *due process*. If the decision to disqualify is based solely on a non-transparent algorithm, the supplier cannot effectively prepare arguments for an appeal, thereby undermining its right to an effective remedy guaranteed by the GPA.

This is precisely why *the Right to Explainability* has become key to resolving this issue, as reflected in the requirements of the EU AI Act for high-risk systems. AI systems used in cross-border public procurement must be built on the principles of XAI (*Explainable AI*). Academic approaches, in particular Pasquale’s, F. concept of *Algorithmic Accountability* (2017, 2019), focus on the fact that AI decisions must be understandable, accountable and contestable. Pasquale advocates for a ‘*Rule of Persons, Not Machines*’, emphasising that algorithms are biased and require external accountability and mechanisms for redress. To ensure *the digital accountability* of algorithms in public procurement, the following extended XAI principles must be implemented:

Auditability - this requirement ensures that interested third parties (including public auditors and judicial bodies) can examine, understand and verify the behaviour of the algorithm through the disclosure of detailed documentation on the model, training data and decision-making logic.

Interpretability - this principle requires that the AI system provide users (for example, suppliers challenging a decision) with a clear and meaningful explanation of which factors (criteria, parameters) most influenced a specific decision (for example, disqualification or a high score). Interpretability allows a ‘black box’ to be transformed into a ‘grey box’, ensuring legal transparency.

Finally, Responsibility - this principle goes beyond technical explanation, requiring the establishment of externally visible avenues for redress and the definition of the internal role of *the human being* responsible for the timely resolution of problems arising from the

algorithm's operation. In other words, the final say and legal responsibility must always lie with a person, not a machine.

The fundamental '*black box problem*', inherent in complex artificial intelligence models, creates a direct systemic obstacle to compliance with international legal obligations, in particular the GPA's requirements regarding transparency (Article VII) and the effective right of appeal (Article XVIII). In the context of cross-border procurement, when high-risk AI makes a critical decision, such as the automatic disqualification of a supplier, the opacity of its internal processes makes it impossible to verify fairness and impartiality, which critically undermines the entity's right to *due process*. This directly contradicts the principles of fair competition and non-discrimination, which are cornerstones of the GPA.

This regulatory disparity, where technical explanations do not meet regulatory requirements, highlights the need to implement *Explainable AI (XAI)*. The concept of XAI is a set of methods aimed at ensuring accuracy, fairness and transparency in automated decision-making, which is critical for building institutional trust and ensuring regulatory compliance. The legal response to the problem of opacity is most clearly articulated in the requirements of the *EU AI Act*, which establishes XAI as a mandatory technical requirement for providers of high-risk systems.

However, according to the latest research, in high-risk legal sectors where legislation requires not only a technical explanation but also a legally meaningful *justification* for a decision, traditional post-hoc XAI methods (such as LIME and SHAP) are recognised as fundamentally inadequate. These methods generate unstable technical approximations of the model's behaviour rather than legally sound grounds for a conclusion, creating the risk of the 'Rashomon effect' (several conflicting explanations for a single result), which renders the right to an effective appeal illusory.

Consequently, academic discourse is shifting towards a new standard: '*Justified AI (JAI)*'. This concept proposes a radical departure from explaining opaque models, focusing instead on the design of interpretable hybrid systems. Such systems must combine rule-based components with data-driven models, ensuring *inherent interpretability*. Without the implementation of mechanisms ensuring digital accountability that meet the JAI standard, the international regulatory context, in particular the GPA, becomes incompatible with high-risk AI, undermining the legitimacy of cross-border procurement procedures.

5. Conclusions and recommendations

Based on the results of this study, which focused on the critical intersection of the integration of high-risk artificial intelligence systems and international legal obligations in the field of cross-border public procurement, a number of key conclusions and recommendations can be formulated.

The study found that the introduction of AI systems into public procurement has created a significant regulatory and ethical disparity between the technical efficiency of automated processes and the fundamental principles of the GPA, which imperatively require transparency and non-discrimination. This finding aligns with the central research problem identified by Olaitan (2025), who demonstrated that the opacity of algorithmic governance creates critical gaps in bureaucratic accountability and threatens due process. The study concludes that the regulatory disparity is severe: the GPA's current text contains a critical regulatory *lacuna* regarding the ethical governance of AI, which undermines the legitimacy of cross-border procurement procedures. The critical challenges of AI integration form an ethical-legal trilemma comprising algorithmic *bias*, opacity (*Opacity*/ the 'Black Box Problem') and the need for Explainability (*XAI*), which together generate latent forms of discrimination and impede the effective right to appeal. In particular, Algorithmic Bias,

caused by the use of historical data, can automatically scale up past discriminatory practices, creating a direct conflict with the GPA's fundamental principle of non-discrimination (Article IV), particularly when assessing non-price criteria (*MEAT*).

The core finding concerning explainability is the inadequacy of traditional post-hoc XAI methods (LIME, SHAP) in high-risk sectors requiring legally meaningful *justification*. This confirms the critique by scholars of algorithmic accountability, as these methods only yield unstable technical approximations (the 'Rashomon effect'), thus rendering the right to an effective appeal illusory. The study concludes that the future of digital accountability lies in the emerging standard of 'Justified AI' (JAI), which requires a radical shift from explaining opaque models to designing hybrid systems that ensure *inherent interpretability*.

Comparative analysis of international regulatory models (EU, UK, US, South Korea) confirms a clear convergence on the necessity of mandatory human oversight (Human-in-the-Loop, HiL) and stricter requirements for algorithmic accountability. This consensus underscores the philosophical and ethical guidance of Pasquale (2017, 2019), whose concept of *Algorithmic Accountability* advocates for the principle of 'A Rule of Persons, Not Machines', insisting that legal responsibility must always reside with the human operator.

To ensure algorithmic integrity and compliance with GPA international legal standards, it is necessary to develop a comprehensive framework of harmonised principles focused on digital accountability:

- Establish the 'Justified AI' (JAI) Standard. A JAI standard should be established, which will provide not only an explanation but also a legal justification for the final result, thereby satisfying the requirements of due process. This requires a fundamental shift to designing hybrid systems that ensure inherent interpretability, avoiding the technical approximations and potential for conflicting explanations (the 'Rashomon effect') created by inadequate post-hoc XAI methods.

- Implement Mandatory Ethical Audits and Technical Transparency. Mandatory requirements for ethical audits of AI systems to identify and minimise bias should be integrated into international and national frameworks, aligned with the call for *ethics-oriented auditing* by Munoko, Brown-Liburd, & Vasarhelyi (2020). The audit must include a Fundamental Rights Impact Assessment before system deployment, as required by the EU AI Act. Technical transparency must be secured by requiring suppliers of high-risk systems to provide automatic logging and record-keeping of all AI operations, ensuring Auditability for public bodies, auditors, and judicial bodies.

- Enshrine the Principle of 'A Rule of Persons, Not Machines' (HiL). It is imperative to enshrine the principle of 'A Rule of Persons, Not Machines' to ensure that HiL control is operational rather than theoretical. The human operator must be specifically empowered to intervene, override, or revoke any decision made by the AI (a core requirement of the EU AI Act and the South Korean Model). This ensures that legal liability and Responsibility for the final decision always rests with the human operator, addressing the core conflict of *legal accountability*.

- Actively Utilise Model Contractual Provisions. It is critically important to actively utilise model contractual provisions for the procurement of high-risk AI (such as the EU MCC-AI-High-Risk), which should be adopted internationally as a de facto benchmark. These clauses translate regulatory obligations into strict contractual requirements, compelling suppliers to ensure continuous risk management throughout the entire AI lifecycle, detailed technical documentation, and adherence to heightened standards of accuracy, reliability, and cybersecurity. Furthermore, they must grant public authorities extensive audit rights and cooperation in conducting the Fundamental Rights Impact Assessment.

- Modernisation of the GPA and Antitrust Mechanisms. The modernisation of the GPA should continue, in particular the introduction of structured, machine-readable transparency fields (e.g., Contract ID, Funding Code, Review Criterion), aligning the transparency infrastructure with modern digital standards. This is essential for creating the necessary technical foundation for a unified ethical AI system. This also includes the proactive utilisation of existing antitrust and anti-collusion mechanisms to counter new anti-competitive practices, such as algorithmic price fixing or collusion (Anderson et al., 2024), thereby ensuring the resilience of the procurement system against the automation of existing biases and fraudulent schemes.

The implementation of these measures will harmonise the principles of international trade with new technological realities, ensuring digital accountability in cross-border public procurement.

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