

Reforming criminal justice in Bangladesh through technology: Comparative insights from e-justice models in India, the UK, and the US

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Abstract

This scientific and research-based paper took a qualitative and doctrinal approach to analysing the possibility for reforming Bangladesh's criminal justice system through the systematic use of technology. The study was based on the recognition that Bangladesh's criminal justice system is hampered by pervasive delays, inefficiency, and accessibility issues, which create strong hurdles to justice and contribute to a decline in public confidence. This paper viewed the use of e-justice as a scientific challenge in institutional modernisation and legal integration, requiring comparative analysis and context-sensitive adjustments. The key argument proposed is that digital change, when guided by comprehensive legislative frameworks and institutional preparedness, may be a powerful facilitator of criminal justice system reform. The study extracted scalable, legally acceptable, and context-relevant mechanisms that may drive Bangladesh's reform effort through a comparative analysis of lessons learnt from India, the United Kingdom, and the United States, all of which have adopted distinct e-justice frameworks. The objective of this study was to provide an evidence-based, whole-of-government roadmap for Bangladesh's adoption of e-justice, with a focus on law reform, digital infrastructure, institution building, and accessible justice for marginalised people. The study included a comparative investigation of law and combined law, policy, and technology. Combining doctrinal and comparative insights, the study contributed to the area of knowledge on legal digitalisation in the Global South and provided policymakers, judicial authorities, and development partners with practical advice. It showed how contextually appropriate technological reforms can improve public trust, uphold human rights, and strengthen procedural justice, offering a roadmap for the long-term, technologically driven reform of criminal justice system of Bangladesh

Keywords:

access to justice; comparative law; digital transformation; judicial efficiency; legal innovation

Introduction

The protection of human rights, the rule of law, and public trust in the administration of justice all depend on criminal justice systems' functional levels of efficacy, accessibility, and legitimacy. Procedural inefficiencies, massive backlogs, protracted trial times, and limited

access to the legal system, particularly for underprivileged populations and the rural populace, have all been persistent problems in the criminal justice system of Bangladesh. Delays in the delivery of justice, a loss of trust in the legal system, and a turn to extrajudicial

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conflict resolution and justice administration systems are all consequences of these flaws. The imperatives for reform in Bangladesh's criminal justice system have been strengthened by growing needs for greater efficiency, transparency, and accountability in the administration of justice, all of which are more important, particularly in light of significant technological advancements and evolving methods of governance in the modern state. Technologically driven measures in the administration of justice can constitute a means to address inefficiencies and lack of access to justice in traditional court systems. Therefore, this study, by analysing the potential of technology-enabled solutions, fits into a larger discourse on the modernisation of criminal justice systems in emerging economies, emphasising the importance of contextually suitable strategies that strike a balance between technological advancement and legal and institutional integrity.

Recent research has looked into the present state of digital justice efforts, their efficacy and obstacles in different countries. A. Dahiya & S. Banerjee (2024) examined the scope of India's e-court project and documented the benefits of case management and remote hearings in lowering outstanding cases, but they also highlighted issues relating to infrastructure, digital literacy, and uniform processes. According to P. Bhattarai & S.K. Chaudhary (2025), although legal innovations play an important role in improving access to justice by eliminating unnecessary formalities in judicial processes, poor implementation of digital reforms may exacerbate the digital divide. As indicated by F. Casino *et al.* (2022), a comprehensive assessment of global approaches to combating cybercrime and handling electronic evidence highlights the importance of institutional capacity alongside standardised procedural models to ensure authenticity and admissibility of evidence. M. Latif & A.R. Innash (2024) investigated the current change of courts resulting from the use of ICT, concluding that digital case filing, online dispute resolution, and case management systems improve efficiency but require holistic methods and synchronisation with case procedures. The EU's European Commission (2025) emphasised the importance of using digital tools, such as electronic filing of cases, document management tools, and virtual oral hearings, to facilitate the smooth handling of cases through the judiciaries and enable the speedy dispensation of justice, which can help address the perennial problem of pending cases. However, the EU's new initiative highlights the limitations and impediments to standardising digital instruments throughout EU countries' judiciaries.

The doctrinal and comparative literature provides light on the regulatory and practical issues of judicial digitisation. H. Thakran (2025) investigated the doctrinal handling of electronic evidence in India, the United Kingdom, and the United States, focusing on the legal requirements essential to secure the admission and

integrity of digital evidence in criminal prosecutions. Research on Kyrgyzstan's e-justice reforms demonstrates that digital tools are only effective when combined with institutional preparation, governance mechanisms, and extensive training for judicial officials (Maralbaeva, 2024). All these studies show that successful technology adoption in justice systems is dependent on not only infrastructure and software deployment, but also legislative frameworks, procedural harmonisation, and human capability. The early stages of digital justice in Bangladesh, however, have both optimism and a distinct set of constraints. Due to the COVID-19 challenge, according to M.I. Hasan & B. Mia (2021), the courts have turned to virtual courts for digital justice, which helps clear the backlog. This strategy suggested that technology may improve accessibility and speed up the administration of justice, especially in a busy court system. Subsequent initiatives, such as the e-Judiciary project and provisions of the "Usage of Information and Communication Technology in Court Ordinance 2020", sought to digitise courtrooms, allow for remote hearings, and enhance case administration through centralised databases and online cause lists. Nonetheless, implementation varies by district, and gaps exist in legislative support, procedural standards, and integration with law enforcement and prosecution systems (Sheikh *et al.*, 2024). Insufficient infrastructure, poor digital literacy, and unequal adoption highlight the importance of evidence-based measures for ensuring fair, efficient, and legally sound e-justice interventions.

The purpose of this study was to assess how technology might be used to change Bangladesh's criminal justice system and to develop contextually feasible options influenced by experiences from the United States, India, and the United Kingdom.

Materials and Methods

This study used a qualitative, doctrinal, and comparative legal research methodology to analyse the role of technology in modernising Bangladesh's criminal justice system, building on lessons learned from India, the United Kingdom, and the United States. The doctrinal component entailed a thorough examination of legislation, case law, criminal procedural laws, policy instruments, and court decisions to determine how legal frameworks facilitate or impede the incorporation of technology in justice delivery. The research focused on areas such as digital evidence, virtual court proceedings, and court administration information systems that span jurisdictions. Comparative analysis was used to uncover parallels, contrasts, and contextually relevant practices that can guide policy and legal reforms in Bangladesh. This analytical approach guaranteed a careful evaluation of both local and international legal frameworks, allowing for evidence-based suggestions for implementing technology-driven improvements in Bangladesh's criminal justice system.

Furthermore, a comparative legal analysis was used to examine how different jurisdictions, with their varied socioeconomic contexts and regulations, have incorporated advances in information and communications technology into their criminal justice systems. This involved a comparative examination of legal statutes, institutional modifications, procedural mechanisms, and digital safeguards. The technique was beneficial for comparing jurisdictions and evaluating whether components of their e-justice frameworks may be replicated inside Bangladesh. Comparative methodology was prominent in reform-oriented legal studies and was effective for transcending inner answers. The information included in the study was derived from both primary and secondary sources. The European Commission for the Efficiency of Justice (CEPEJ) publications provide precise metrics on the use of information and communication technology (ICT) in European judiciaries, which help outline Bangladesh's situation in comparison to international norms (Council of Europe, 2024). The World Bank's Justice and Rule of Law initiatives, especially those focused on digital governance, provided frameworks and comparative case studies undertaken in low- and middle-income countries (Carøe & Upegui Caro, 2025).

The purposeful selection of India, the United Kingdom, and the United States as comparator jurisdictions was both strategic and context-appropriate. India and Bangladesh have a same legal history and confront similar issues such as court delays, access to justice, and socioeconomic inequities. For India, primary sources included the official government objectives and implementation plans for the e-Courts Mission Mode Project Phase III, which presented strategies for digital records in courts, virtual filing systems, and virtual participation to address issues of access to justice and case delays (Press Information Bureau, 2024). The United Kingdom was chosen because of its considerable use of digital technology in case management, virtual court services, and efforts to improve accessibility via digital platforms. All of this may be found in the digital services overview provided by the HM Courts and Tribunals Service (2025a; 2025b). It was also reflected in the official remote participation strategy and how remote court hearings can improve access to justice.

Results and Discussion

Overview of E-Justice initiatives in Bangladesh. Bangladesh has begun to digitalise its criminal proceedings, a process expedited by the COVID-19 pandemic. The establishment of virtual courts and video conferencing was an instant solution to ensure that judicial operations may continue despite social distancing procedures and lockdowns (Hasan & Mia, 2021).

The emergency process rules empowered courts to hold distant hearings and therefore continue judicial proceedings despite physical limitations.

The initiative was renewed with the promulgation of the "Use of Information Technology by Courts Act, 2020"¹, a piece of legislation that provided a legal mandate for the institutionalisation of ICT in court procedures, thereby boosting the viability of virtual justice systems (Abu Taher & Jamaluddin, 2022). The invention represented a substantial change away from traditional judicial processes and towards a hybrid system that combines physical and digital components.

Apart from emergency response, Bangladesh has explored a number of digital projects to improve case management. The Supreme Court has implemented digital cause lists and limited e-filing systems, with the goal of minimising dependency on physical copies and expediting procedural mechanisms (Rafah, 2023). Furthermore, the "Amar Adalat" mobile application indicates efforts to increase accessibility by giving litigants instant access to case statuses and court schedules (UNDP, 2022). The application has received widespread praise for allowing litigants to connect with the legal system in a more transparent and convenient manner.

Despite these encouraging developments, Bangladesh's e-justice growth is inconsistent and hindered by a number of structural impediments. First, courts lack adequate ICT infrastructure, particularly those located outside of major centres. The fragmented pattern of high-speed Internet penetration, low hardware resources, and inadequate technical assistance hamper effective adoption. The digital infrastructure deficit is worsened by a large rural-urban connectivity divide that disproportionately affects vulnerable and underprivileged communities, reinforcing pre-existing hurdles to access to justice (Hasan & Rupa, 2021). Second, the use of e-justice and other e-technologies in courts has encountered opposition or hesitancy from both legal professionals and the subjects of the judicial system in a number of nations. Research shows that legal actors, including judges, attorneys, and court legal subjects, may exhibit ambivalence in accepting or embracing e-technologies because they believe the process is biased and raise concerns about data privacy when using them. They also have trouble connecting the use of e-technologies with traditional or core values in the legal process. Most attorneys wonder whether virtual hearings can provide acceptable standards of justice and effective representation, and this stems from a fundamental dispute about the propriety of emerging technology in sensitive criminal procedural concerns.

Additionally, a cohesive national e-justice policy framework is absent. The existing changes are mostly

¹ Law of No. 11 "On the Use of Information Technology by Courts Act of Bangladesh". (2020, July). Retrieved from <http://bdlaws.minlaw.gov.bd/act-1305.html>.

portrayed as separate pilot projects, with no overarching plan for their integration among multiple institutions within the criminal justice system, such as law enforcement, prosecution, and corrections. The absence of cohesiveness undermines the promise of a networked digital justice ecosystem and limits scaling. Security and data protection concerns, and standardised procedural rules, are not sufficiently addressed, posing hazards for further implementation. Overall, these challenges demonstrate that, while Bangladesh has taken first steps towards e-justice development, considerable institutional, infrastructural, and cultural obstacles must be overcome to create a smooth, efficient, and inclusive digital criminal justice system.

Case study: India. India's experience with e-justice is an important point of reference for Bangladesh, owing to their shared colonial legal systems, similar socioeconomic issues, and the extent of judicial delay. The country's e-Courts Project is one of the most ambitious digital changes in the judiciary on a global scale. The initiative, which began in 2007 and is presently in Phase II, aims to improve district courts through automation, digitisation, and connection (Dahiya & Banerjee, 2024). Phase I focused on providing ICT infrastructure to courts and developing the National Judicial Data Grid (NJDG), a central repository that records real-time information on case filing, backlog, and disposal rates in hundreds of courts across the country. The NJDG serves as a key management tool, allowing administrative judges to identify regions with significant backlogs and more efficiently allocate resources. According to analysis, these centralised data platforms enable evidence-based policy choices by improving administrative efficiency and offering quantifiable insights on judicial bottlenecks (World Bank, 2024).

In addition to infrastructure development, India has embraced technological innovation to increase litigant involvement. The widespread use of video conferencing has helped courts continue to function during the COVID-19 outbreak and beyond, allowing litigants to hold distant hearings that minimise logistical barriers for both plaintiffs and witnesses (Saxena, 2022). E-filing system upgrades have enabled attorneys and litigants to file online, reducing the need for in-person visits and speeding up case resolution. Again, the use of SMS and smartphone notifications guarantees that litigants are instantly informed of developments in their cases, resulting in enhanced transparency and confidence in the courts (NIC, 2025). Although their efficacy depends on user accessibility and digital competence, these technological interventions show that digital technologies may significantly cut down on procedural delays and increase public confidence in legal procedures (Jubaer, 2025).

The Indian e-Courts initiative is greatly aided by the Supreme Court's e-Committee and the technical expertise offered by the National Informatics Centre

(NIC) (2024), which ensures continual help, capacity building, and system upgrades. Judges' active participation in reform processes reflects a strong institutional commitment to modernisation. Research shows that a key success element is the combination of technological know-how and institutional support, emphasising the need of leadership in promoting long-lasting e-justice changes (Inter-American Development Bank, 2025).

The concept, however, has yet to be completely realised and has various flaws, including a lack of consistency in state-level implementation, disparities in digital literacy rates among attorneys, and deficiencies in court facilities at the rural level. This implies that in order to fully realise the potential of digital justice, fair access and standardised execution are just as important as technical infrastructure (Press Information Bureau, 2024). The entirety of Indian experience demonstrates that digital changes are a systemic effort that requires institutional commitment to training and inclusive measures to achieve impact. Thus, Indian e-justice is a comprehensive judicial approach to digitalisation that combines technical innovation and institutional orientation, giving good lessons for Bangladesh.

Case study: United Kingdom. The United Kingdom exemplifies a contemporary and integrated digital judicial system that values transparency, citizen engagement, and procedural fairness. The HM Courts and Tribunals Service (HMCTS) Reform Programme, which began in 2016, represents a comprehensive digital reform of the judiciary (HMCTS, 2024). According to the research, HMCTS's technology services not only altered the legal process, but also improved general satisfaction and robustness of the courtroom system, notably for virtual trials and submissions (HM Courts and Tribunals Service, 2025a). The "Common Platform", a unified case management system designed to centralise and digitalise workflow across criminal and civil courts, is at the heart of this endeavour. Judges, attorneys, and litigants have secured and real-time access to case files via the platform, allowing for faster case processing and reducing dependence on paper documents. The unified digital management system for digital cases improves interagency collaboration and decreases administrative cost by removing paper-based inefficiencies. This is one of the most important lessons for countries seeking to implement such techniques (HM Courts and Tribunals Service, 2025a). The Common Platform was widely implemented by mid-2024, resulting in a significant improvement in case management practice and administrative efficiency.

The United Kingdom has adopted innovative procedural innovations, such as an electronic plea system that allows defendants to present guilty pleas online, resulting in shorter court length and faster case resolution (Peay & Player, 2018). Digital evidence management solutions enable parties to safely upload evidence before to hearings, improving procedural transparency

and court preparedness. Digital mechanisms such as online pleas and the uploading of real-time evidence demonstrate the potential for procedural innovation to positively change responsive courts, underlining the importance of solid support models in such a situation (HM Courts and Tribunals Service, 2025b). Furthermore, the HMCTS Reform Programme aims to retain high levels of public engagement by focussing on continual end-user feedback, hence increasing confidence and ensuring that digital systems are suited to the demands of varied stakeholders (HMCTS, 2024).

The success of the UK's digital justice reforms may be credited to both technology advancements and a holistic plan that includes training, user assistance, and policy reform. Some practitioners' initial opposition was overcome by repeated capacity-building initiatives and pilot-testing phases, enabling for the progressive development of technologies that better correspond with court practice. The instance of the United Kingdom demonstrates the significance of a comprehensive approach that blends technical advancements with procedural and institutional reforms to improve justice delivery.

Case study: The United States. The United States features a complicated and layered structure of technology innovation in the criminal justice sector, characterised by a federally controlled system with a variety of state-level implementations. Among the most significant technology tools are AI-powered sentencing and risk assessment algorithms, such as COMPAS (Correctional Offender Management Profiling for Alternative Sanctions), which are intended to help courts make bail, sentencing, and parole decisions (Vo & Plachkino, 2023). The technologies are designed to introduce consistency and predictive analytics into adjudicative decision-making processes. They have, however, aroused major criticism concerning algorithmic bias, a lack of transparency, and the protection of due process, with some claiming that automated risk assessment may affect some minority groups disproportionately (Angwin *et al.*, 2023).

As a result, some jurisdictions have launched reform initiatives to audit, regulate, or limit the use of AI in the criminal justice system. Aside from artificial intelligence, the United States has embraced online dispute resolution (ODR) tools as viable alternatives to conventional court procedures, particularly for low-value administrative and civil issues. ODR has effectively increased access to justice by lowering costs and logistical barriers, while also improving efficiency and equality in dispute resolution procedures (Zhao, 2024). E-warrants are yet another technical advancement that allows law enforcement agencies to electronically obtain, issue, and monitor search and arrest warrants, resulting in greater ease and responsiveness.

California and New York are innovative hotspots for e-justice technology. The New York Unified Court System improves administrative efficiency by updating case management, filing, and scheduling systems throughout the court system. California's virtual hearings programmes, which were hastened in response to the COVID-19 pandemic, improved court accessibility for plaintiffs with geographical or mobility limitations (Chen, 2024). However, innovations raise a number of concerns, including inequalities in digital access for different demographic cohorts, cyber security risks, and the potential compromising of procedural safeguards if technology is used without control (National Centre for State Courts, 2023). The American experience demonstrates both the potential and the hazards of implementing significant technological breakthroughs into criminal justice systems. It demonstrates the importance of balancing innovation with solid ethical and legal frameworks to promote fairness, accountability, and inclusivity in the administration of digital justice.

Key comparative insights. The comparative study of e-justice programmes in India, the United Kingdom, and the United States demonstrates that integrating criminal justice systems with technology requires considerations beyond hardware and software installation. While the technology base may serve as the fundamental justification for digital justice reforms, legislative support mechanisms and behavioural changes in the judicial system provide the deeper fuel for long-term transformation. Each of these components – legislative change, institutional leadership, and citizen action – has a synergistic effect on the efficacy, legitimacy, and acceptability of e-justice systems. A significant finding is that adopting technology without proper legislative support is unlikely to result in long-term transformation. In each of the three countries investigated, the creation or alteration of legal frameworks has aided in the legitimisation of digital proceedings, the admission of electronic evidence, and the development of procedural rules for electronic submissions and virtual hearings. The United Kingdom's efforts to digitalise court processes, for example, have been aided by amended procedural rules that explicitly recognise digital inputs and distant testimony, removing uncertainties that had previously hampered court acceptance of technology (Haviland, 2025).

Similarly, India's legislative initiatives, including as revisions to the Code of Criminal Procedure¹ and information and communications technology statutes, have aided the institutionalisation of schemes like the e-Courts project by giving explicit instructions and protections. These legislative reforms do more than merely include technology; they fundamentally alter the justice system, necessitating adjustments to case management systems and court procedures.

¹ Code of Criminal Procedure of India. (1974, January). Retrieved from https://www.indiacode.nic.in/bitstream/123456789/15272/1/the_code_of_criminal_procedure_1973.pdf.

In addition to legislative improvements, changes in the behaviour of judicial and legal professionals have a significant impact on the effectiveness of e-justice efforts. If not addressed via capacity building and cultural transformation, judges, prosecutors, and attorneys' opposition to digital tools can seriously hamper reform efforts. The impact of positive attitudes toward the adoption of technology and the necessity of specialised training is demonstrated by empirical evidence from the United States, for instance, which shows that court officials, including judges, administrators, and attorneys, who adapted to virtual court hearings and electronic filing, expressed increased participation and improved procedural efficiency (The Pew Charitable Trusts, 2021). In contrast, countries where technology is pushed without proper input of interested parties frequently see limited utilisation and disorganised deployment. This emphasises the importance of implementing change management techniques that foster acceptance, enhance capabilities, and drive creativity across the justice staff.

At the heart of several legislative and behavioural factors is the need for strong institutional leadership to drive e-justice reform objectives. The leadership given by the e-Committee of India's Supreme Court and the Ministry of Justice (MoJ) in the United Kingdom exemplifies how imaginative and coordinated governance institutions can handle complicated technology advancements across several tiers of the judicial system. The e-Committee of India's Supreme Court has served as more than just an advisor on policy issues. It has played an important role as an integrating node, ensuring that suitable technology is used in an effort to solve day-to-day operational bottlenecks in district courts across India. For example, its implementation of an e-Courts Case Management System in India, its initiative to establish video-conferencing tools in courts to conduct virtual hearing sessions, and its efforts to ensure that a level of standardisation is incorporated into court-level e-filing to ensure smooth court operation. India has also held training sessions for its judicial and administrative staff to make them more technologically adept. Such high-level leadership has instilled consistency and convergence in the deployment of e-Courts, assuring alignment with Court goals while encouraging collaboration between IT suppliers and court management.

For example, the MoJ's strategic direction for the HMCTS Reform Programme in the UK highlights the potential for extensive digitalisation within the jurisdiction through government-led initiatives supported by a clear mandate and effective project management techniques. These initiatives combine user-centric design with cooperation among operational teams and the entire justice system to foster a sense of trust and ownership (Ministry of Justice, 2022). Such leadership arrangements are critical for overcoming institutional resistance, coordinating cross-agency efforts, and

ensuring continued financing, all of which are recurrent threats to criminal justice reform.

Comparative studies of e-justice initiatives have revealed that digital courts and online case management systems can improve access to legal information, increase procedural transparency, and streamline judicial processes. This reduces the likelihood of bureaucratic bottlenecks and the need for middlemen for basic case tracking and information access (Jubaer, 2025). Direct digitalisation of case management, filing, and communication that is available for immediate use enables litigants to follow their cases in real time, file online, and get automated alerts, simplifying processes and reducing opportunities for corruption or leverage. For example, India's National Judicial Data Grid (NJDG) serves as a standard for a publicly available platform that provides complete case status information and court performance metrics, promoting accountability and allowing litigants to make educated decisions (NIC, 2024). Similarly, the UK's "Common Platform" enables online case management and evidence filing, allowing parties to engage with court proceedings remotely and transparently (HM Courts and Tribunals Service, 2025b). They have contributed to the democratisation of access by lowering reliance on intermediaries who have traditionally functioned as gatekeepers and fostering procedural fairness and public confidence.

Nonetheless, system creation for people must be useable and inclusive to avoid unintentional exclusion of individuals with limited digital literacy or means. The comparative situations show the need of designing with end-user engagement, allowing multilingualism, and guaranteeing offline support in order to reach a wide range of audiences. This involvement strategy combines the availability of technology with people's genuine experiences for which they seek a solution, hence increasing legitimacy and utilisation.

In summary, key comparative observations from India, the United Kingdom, and the United States show that integrating e-justice into criminal justice systems goes beyond mere ICT infrastructures. To truly realise its transformational potential, it requires a comprehensive strategy that includes legal modernisation, strong institutional leadership, and user-centred design. Legislative amendments lay the legal groundwork for digital operations; behavioural changes among justice stakeholders ensure operational efficiency; strong institutional leadership ensures facilitation and resource allocation; and citizen-centric platforms improve transparency and accessibility. All of these inter-related components are essential for effective e-justice systems and give valuable insights into Bangladesh's continuing reform efforts.

Lessons for Bangladesh. Bangladesh may learn useful lessons from the comparative experiences of India, the United Kingdom, and the United States about how to effectively use technology to improve the

criminal justice system. The experience emphasises the importance of establishing an integrated, centralised digital justice system, expanding digital capacity building beyond the judiciary to prosecution and law enforcement agencies, and closing the digital literacy gap between attorneys and plaintiffs. All of the following are required to ensure that technology-driven changes are smooth, fair, and provide substantial potential for improving accessibility, efficiency, and transparency.

Bangladesh needs a centralised digital justice infrastructure and a higher-level coordinating authority. The existing fragmented state of technology interventions, with hundreds of pilot projects and a lack of inter-agency coordination, has resulted in non-uniform acceptance and operational inefficiencies. Bangladesh would greatly benefit from transferring such oversight to either the Supreme Court or the Ministry of Law, drawing on institutional configurations in India and the United Kingdom, where digital justice reform is guided by central entities such as the Supreme Court e-Committee and the Ministry of Justice. A centralised institution would enable a single planning approach, standard formulation, resource facilitation, and performance tracking throughout the criminal justice system.

Institutional integration at the central level would be required to coordinate multiple digital initiatives, improve interoperability across information systems, and allow for consistency in procedural norms governing electronic submissions, digital evidence, and virtual court hearings. Furthermore, the central digital architecture would serve as an interface for collaboration with external actors, such as the Ministry of Information and Communication Technology and private information and communication technology service providers, ensuring that ICT capabilities are adequate for judicial needs. Bangladesh's lack of central governance would make it vulnerable to a fragmented and isolated digital infrastructure, jeopardising both scalability and sustainability.

The second fundamental statement is that digital literacy and technology skill development should extend beyond judges and court officials to include law enforcement agents and prosecutors. Most of the current discussion and reform initiatives in Bangladesh have focused on the court, frequently ignoring the critical responsibilities that police and prosecutorial services play in the criminal justice system. In any event, the efficiency of electronic justice systems is contingent on the efficient transmission of information and inter-agency coordination among all criminal justice players. The case management system digitalisation example demands police personnel to accurately input investigative reports, while prosecutors must be able to examine and amend case files electronically in real time. Without essential digital skills and experience with electronic instruments of justice, those critical

players would be able to hinder reform rather than serve as agents of change. Lessons from the United States and India indicate that comprehensive training programmes and dedicated digital units in law enforcement and prosecutorial agencies can significantly improve administrative efficiency and integration into the digital justice system. In Bangladesh, systematic initiatives to improve ICT skills must be institutionalised, spanning from basic computer literacy to advanced data management and cybersecurity knowledge. Furthermore, these programmes must take into consideration the resource constraints and current workloads of police officers and prosecutors to ensure realistic implementation and ongoing engagement.

Third, the discrepancy in digital literacy between litigants and legal practitioners is a significant barrier that Bangladesh must overcome to prevent the escalation of justice inequities. The digital gap, particularly across rural-urban, gender, and socioeconomic lines, risks further marginalising large segments of the population from efficiently utilising digital justice systems. Although digitisation has the potential to increase accessibility, it also risks excluding those who lack basic digital skills or access to Internet-connected devices. As a result, e-justice changes should be accompanied by comprehensive measures aiming at increasing digital literacy and guaranteeing equal access.

Initiatives like as community-oriented digital literacy stores, mobile legal aid clinics equipped with e-justice kiosks, and awareness programmes aimed at marginalised populations have been effective in closing the gap. Legal educational institutions and professionals must also include digital competency development into their curricula and ongoing professional development plans to better educate attorneys and paralegals for a digital future. The user-friendly interfaces and multilingual help provided by e-justice systems would further contribute to accessibility. Furthermore, Bangladesh's reform programme should include support for litigants who are unfamiliar with technology, such as specialised aid desks, an on-chat service, and engagement with civil society organisations that specialise in legal empowerment. Such end-user-oriented facilitation mechanisms are critical for fostering public trust and ensuring that ICT complements rather than hinders access to justice.

Bridging the digital literacy gap requires inclusive infrastructure development that addresses underprivileged communities. Although metropolitan areas have better Internet connectivity and wider access to information and communication devices, substantial areas of rural Bangladesh suffer from infrastructure deficiencies that limit their capacity to interact with digital systems. Without concurrent investments in improving broadband penetration, inexpensive Internet service provision, and reliable power supply, digital justice reforms would likely to be elite undertakings separated

from the reality of the greater people. To create a digital justice-friendly environment across varied geographic and socioeconomically dissimilar places, coordinated policy solutions across several ministries of government must be implemented. Moreover, learning from international models emphasise the significance of deploying technologies that are context-appropriate and consistent with Bangladesh's socio-legal paradigm. Given the extensive usage of smartphones rather than desktop computers, solutions designed for low bandwidth and mobile-friendly devices are sure to be more productive (Bangladesh Judiciary, 2022). Second, using traditional methods such as SMS or phone calls to send information about case developments and court notifications has the immediate effect of increasing end-user engagement, similar to the Indian experience with data grids in courts.

In conclusion, integrating e-justice into the Bangladesh criminal justice system necessitates a comprehensive approach that leverages institutional centralisation, mass capacity building for criminal justice actors, and proactive remedies to digital illiteracy disparities among users. The insights made above imply that more than just technological improvements are required, and that they must be guided by legal and societal perspectives, resulting in increased fairness, openness, and efficiency as justice is digitalised. Only via such diverse and inclusive replies will Bangladesh be able to fully use technology developments in re-inventing its criminal justice system.

Legal and policy reforms needed. Effective e-justice systems in Bangladesh require a solid corpus of law and policy that supports digital processes while protecting fundamental rights and facilitating accountability. The existing legislative provisions are largely insufficient to offset the developments in ICT occurring within the criminal justice system. Thus, foundational reforms are required, such as the introduction of a comprehensive "E-Justice Act" or significant amendments to the existing Code of Criminal Procedure¹ (CrPC), clear guidelines for digital evidence admissibility, and the establishment of meticulous statutes for data security and algorithm culpability. Each of these components plays an important role in providing the legal clarity, procedural fairness, and moral standards essential for technology-assisted justice. For example, the Indian Information Technology Act 2000² give the fundamental guidelines for digital signatures, e-filing, and the admission of digital evidence. These rules offer

technological insights into the process of codification. The Civil Procedure Rules (CPR 1998)³ about Electronic Working, which provide comprehensive standards for e-filing, case management, and managing electronic documents, are another example in the UK, particularly in civil procedures. The interests of the plaintiffs are safeguarded and uniformity is ensured by these rules. The Federal Rules of Civil Procedures,⁴ which were modified in 2002, and state laws pertaining to digital evidence provide guidance in the United States.

Based on these models, Bangladesh could adopt a comprehensive E-Justice Act or amend the CrPC⁵ in the following ways: (1) digital evidence admissibility and authentication, taking inspiration from American and Indian models; (2) uniform rules for conducting online hearings and practicing e-filing and case management through electronic systems, taking inspiration from British digital rules; and (3) comprehensive data protection, algorithmic responsibility, and cyber protection, emulating US federal and state statutes on data protection and similar principles. The aforementioned actions would guarantee the ethical standards, procedural equality, and legal clarity required to realise technology-enhanced, responsible justice.

First and foremost, enactment of a thorough E-Justice Act or relevant modifications to the Code of Criminal Procedure⁶ are required to establish a clear legal foundation for electronic court proceedings. Despite Bangladesh's initial efforts to digitalise its judiciary, such as electronic filing and the establishment of virtual courts, these efforts lack a coordinated legislative framework that defines the parameters, procedures, and legal recognition of e-justice. Without clear legal prescriptions, questions about jurisdiction, procedural validity, and the enforcement of electronic court judgments may arise, jeopardising the public's trust in the judicial system.

A comprehensive E-Justice Act would formalise the legal foundation for electronic case management, digital notifications, virtual hearing courts, and electronic signatures, ensuring that courts and criminal justice agencies follow consistent processes. This measure should also include guidelines for interoperability across agencies to facilitate smooth data flow and cooperation. To avoid uncertainty and avert jurisdictional clashes, such a bill should explicitly clarify the roles and obligations of judges and their officials, prosecutors, and law enforcement personnel within the e-justice paradigm, based on international precedents.

¹ Code of Criminal Procedure of Bangladesh. (1898, March). Retrieved from <http://bdlaws.minlaw.gov.bd/act-75.html>.

² Information Technology Act of India. (2000, June). Retrieved from https://www.indiacode.nic.in/bitstream/123456789/13116/1/it_act_2000_updated.pdf.

³ Civil Procedure Rules of the United Kingdom. (1998, December). Retrieved from <https://www.legislation.gov.uk/ukxi/1998/3132/contents/made>.

⁴ Federal Rules of Civil Procedure of the USA. (1938, September). United States District Courts. Retrieved from <https://www.uscourts.gov/forms-rules/current-rules-practice-procedure/federal-rules-civil-procedure>.

⁵ Code of Criminal Procedure of Bangladesh. (1898, March). Retrieved from <http://bdlaws.minlaw.gov.bd/act-75.html>.

⁶ Ibidem, 1898.

Apart from establishing a statutory framework for electronic procedures, clear and comprehensive regulations governing the admission of digital evidence in criminal proceedings are required. With the increasing digitisation, digital evidence has presented a plethora of evidential quandaries about the legitimacy, integrity, and chain of custody for electronically stored information (ESI). Bangladesh's present evidentiary laws, which are mostly based on conventional frameworks, are unable to address these emerging difficulties (Sheikh *et al.*, 2024). Without rewritten rules, judges may become confused when dealing with digital evidence, which may result in varied judgements or the rejection of critical material.

Legislative changes must formalise best practices for acquiring, preserving, and presenting digital evidence, including methods for forensic testing, metadata inspection, and the use of blockchain or other secure means of authentication. It is also critical that the legislation provide a threshold of competency for judges and attorneys to analyse digital data and apply evidence-based scientific approaches. The establishment of dedicated forensic cybercrime units inside the judicial system, guided by explicit legal norms, will also improve dependability and credibility (Yesmen & Ahmed, 2022). It will bring Bangladesh on level with globally acknowledged standards established by the United Nations Office on Drugs and Crime (UNODC) and the International Association of Prosecutors.

In addition to procedural legislation, the increasing digitalisation of criminal processes necessitates the creation of robust data security rules that safeguard sensitive personal data and guarantee privacy rights. The processing of large datasets including personal, biographic, and case information raises the stakes for unauthorised use, misuse, and data security breaches. Bangladesh lacks a specific data security paradigm that controls how judicial data is collected, stored, and distributed in accordance with worldwide privacy norms (Islam, 2022). Without sufficient legislative limits, digital court systems will be vulnerable to privacy abuses, undermining citizen trust and infringing on constitutional rights.

Therefore, reform should centre on the passage of an appropriate data protection statute for the criminal justice system that addresses data minimisation, purpose limitation, informed consent, and data controller responsibility. The legislation should include measures for data storage in a secure location, encryption, and data rectification and access tools for individuals. Most critically, it should form independent oversight bodies with investigative and enforcement authority to monitor compliance and respond to data breaches. Drawing on experience of the European Union's General Data Protection Regulation (GDPR)¹ and applying them to

Bangladeshi legal setting would create a solid normative framework (Haq *et al.*, 2025)

Another significant facet of law reform is the fairness and transparency of algorithmic decision-making tools that are increasingly being used in criminal justice systems, such as risk assessments, predictive policing, and sentencing guidelines. As helpful as these AI and machine-learning-based systems are for alleged efficiency, they also carry the risk of instilling biases, perpetuating injustice, and destroying due process if left unchecked (Berk *et al.*, 2021). Currently, Bangladesh has no specific regulations or standards for the use of AI in courts or law enforcement, raising issues about impartiality, transparency, and monitoring. To bridge this gap, new legislation or regulatory frameworks must be enacted that establish criteria for algorithmic transparency, explainability, and frequent audits to identify and correct biases (Islam & Uddin, 2023). Legislation would thus be necessary to demand impact assessments prior to the deployment of AI technologies, define human-in-the-loop rules that allow judges to use discretion, and guarantee that concerned individuals have redress mechanisms for opposing algorithmic choices. Bangladesh, drawing on contemporary legal frameworks in outside jurisdictions such as Australia and Canada, may draft context-sensitive legislation that balances innovation and rights protection. In addition to legislation revisions, interdisciplinary expert panels comprised of legal scholars, technologists, and civil society members might be established to ensure the ethical use of AI in criminal justice.

In summary, a comprehensive legal and regulatory framework is needed to support Bangladesh's aim for integrating technology into its criminal justice system. To verify digital procedures and harmonise disparate changes, it is imperative to codify an overarching E-Justice Act or a new CrPC. Good data protection rules will preserve privacy and inspire trust in the public, while specific instructions on digital evidence will increase the fairness of the legal system and the dependability of courts. In the end, algorithmic accountability laws are necessary to guarantee the ethical and transparent use of emerging AI methods.

All of these reforms should be planned with the goal of future-proofing the law, preparing for the rapid advancement of digital technologies, and fostering equality, inclusion, and respect for basic rights. With such fundamental legal and policy reforms, Bangladesh may only expect to implement e-justice in its criminal justice system.

Infrastructures and training. The establishment of strong technology infrastructures and extensive capacity-building programmes are essential to the successful implementation and ongoing operation of electronic judicial systems. The promises of digital justice

¹ General Data Protection Regulation. (2016, May). Retrieved from <https://gdpr-info.eu/>.

will not materialise without sufficient investments in safe data management systems and ICT infrastructure. For the efficient use of e-justice systems, it is also essential to guarantee ongoing professional development for judges and magistrate officers, law enforcement personnel, and attorneys. A scalable and sustainable e-justice ecosystem in Bangladesh also depends on innovation, resource collection, and technical adaptation, all of which may be fostered via public-private partnerships (PPPs).

The growing investments in ICT solutions and reliable data systems that are specifically made to meet the special needs of the criminal justice system are at the heart of the infrastructural requirements. High-definition video conferencing systems, digital recording tools, and end-to-end case management software that supports electronic filing, calendaring, and real-time case monitoring are all examples of how courts are being modernised. To prevent system failures that might jeopardise court operations, a strong and scalable server architecture is required to host these applications. Additionally, in an environment where cyberattacks are becoming more frequent, it is crucial to invest in strong cybersecurity solutions and encrypted data transit protocols to prevent sensitive data from leaking and being used illegally.

Bangladesh has to put a high priority on developing reliable data management and storage systems that adhere to international standards. The cloud computing systems are cost-effective and scalable when managed appropriately, but they also need stringent data sovereignty and access control protocols. Since blockchain technology's distributed ledger may provide clear and tamper-evident audit trails, it offers yet another cutting-edge method of guaranteeing the durability and integrity of data at the judicial level. Standards for data formats and interoperability between and within the police, prosecution, and courts must also be developed to facilitate smooth information flow, reducing the likelihood of errors and delays caused by human transfers.

Electronic justice is based on infrastructure, but for effective operation, judges, law enforcement, prosecutors, and attorneys need regular and specialised training. Both technological developments and an awareness of the moral and legal ramifications of electronic justice instruments are necessary for the digitisation of judicial systems. Building skills related to the use of electronic case management systems, digital evidence management, cybersecurity awareness, and the procedural complexities of virtual hearings should be the main emphasis of capacity-building initiatives (UNDP, 2025). To guarantee context relevance and diversity, training curricula should be created in collaboration with police colleges, bar councils and judicial academies.

Legal professionals are kept abreast of technology advancements and the evolving dynamics of e-justice

frameworks through the incorporation of continuous professional development (CPD) frameworks. By enabling adaptable and expandable learning settings, online learning portals and webinars help modify traditional classroom training. Exercises including simulation and experience-based learning, such as simulated e-court hearings, greatly increase participants' confidence and hands-on proficiency. To initiate a cultural change in the judicial sector, customised training programmes should also address reluctance and distrust among senior judges and solicitors who are not familiar with or uneasy with IT.

Developing digital literacy among litigants and people in general is another crucial factor to be considered to improve the usability and accessibility of e-justice services. Ignoring the digital gap might exacerbate already-existing disparities brought on by technological advancements, especially in rural and marginalised areas. For the sake of inclusion, awareness campaigns, user-friendly interfaces, and content provided in vernacular languages must thus adhere to infrastructure development. Non-governmental organisations and community legal aid groups are especially crucial because they help litigants by supporting their use of digital platforms, reducing the need for middlemen, and promoting improved case management.

Given the significant financial and technological outlays required, PPPs could be a useful instrument for guaranteeing digital innovation in Bangladesh's criminal justice system. Building regionally relevant and appropriate tailored e-justice solutions might be made possible by an enabling ecosystem created by government agencies, commercial businesses, academic institutions, and civil societies working together. PPPs allow sharing resources, lowering risks, and getting access to cutting-edge technologies that are sometimes hard for the public sector to develop without.

The potential of such collaboration is demonstrated by successful PPP frameworks worldwide. As an example, courts in certain jurisdictions have collaborated with tech firms to develop AI-powered case management systems, while academic institutions provide research and assessment to improve system performance (Dahiya & Banerjee, 2024). The creation of innovation hubs and incubators for justice technology holds the potential to promote the rapid development of digital solutions that are interoperable, replicable, and reasonably priced, and that are specifically suited to Bangladesh's criminal justice system.

Furthermore, in order to ensure that PPP projects are open, accountable, and consistent with the objectives of the public interest, the government should establish explicit regulatory frameworks and governance structures for their oversight. Sections of the agreements that ensure data privacy, fair access, and system integrity maintenance for a period of time must be included. Ensuring venues for stakeholder engagement is

equally important since it allows citizens, legal experts, and engineers to collaborate on the design and implementation of technology, resulting in solutions that are both culturally appropriate and people-centred.

Funding for training and infrastructure should be viewed as a continuous and evolutionary process rather than a one-time event. The rapid rate of technology advancement necessitates ongoing software and hardware system updates and skill development for all users. By putting in place procedures for routine evaluation, feedback gathering, and performance reviews, it will be easier to identify shortcomings and develop adaptable solutions, ensuring that the e-justice system stays aware of emerging possibilities and difficulties.

Ultimately, a coordinated strategy to infrastructure development and capacity training is necessary for Bangladesh's transition to e-justice concept. Systematic and inclusive teaching programmes for all stakeholders in the justice sector should be implemented in tandem with conscientious investment in advanced ICT tools, robust data infrastructures, and scalable digital infrastructures. Collaborations between public and commercial entities continue to be an essential means of leveraging technology advancements and expanding the availability of resources. All of these elements work together to create a robust, effective, and easily accessible digital justice system that may increase transparency, speed up case resolution, and restore public trust in the criminal justice system.

Risks and ethical concerns. Technology integration in criminal justice systems nearly always results in frightening hazards and moral dilemmas that must be carefully considered, even while it offers previously unheard-of benefits. Bangladesh must weigh the hazards posed by algorithmic prejudice, privacy invasion, monitoring, and digital marginalisation as it moves to improve its criminal justice system by implementing e-justice programmes. For technological advancements to avoid violating fundamental rights, perpetuating systemic unfairness, or undermining public confidence, these problems must be resolved proactively.

One noteworthy concern is from the increase in monitoring and the ensuing privacy violations. Sensitive personal data, such as biometrics, court documents related to legal proceedings, and conversations between parties, are massively collected, stored, and processed by e-justice systems. These data storages are susceptible to exploitation by both state and non-state actors, unauthorised usage, and potential data breaches in the absence of strict protection measures (Kekül *et al.*, 2021). In situations where there are no strong legal safeguards specifically designed for the judiciary, the use of surveillance tools like location tracking and facial recognition in law enforcement and court settings exacerbates privacy violations (Liu, 2021). Therefore, creating strong legislative frameworks that encompass data collecting

operations, get appropriate permission, and provide redress procedures in the event of malicious conduct should be Bangladesh's top priority.

The ethical conundrum raised by algorithmic bias in risk assessment, sentencing, and predictive policing techniques is closely tied to privacy concerns. The algorithm being used in the criminal justice system is mostly based on historical data that has underlying social prejudices and may ultimately instil these biases against marginalised people. Economically disadvantaged persons or members of minority groups may be disproportionately impacted by predictive models used to estimate recidivism or compute risk scores, which might result in biased choices. Due process and fairness are hampered by the opaqueness of the majority of proprietary algorithms, which also makes judicial review more difficult. Transparent algorithmic systems should be implemented as a cure, together with ongoing bias evaluations and human monitoring. Bangladesh's e-justice system ought to incorporate moral guidelines for the application of AI technologies, encouraging responsibility, and adherence to constitutional protections.

Digital isolation among rural, poor, and other marginalised litigants is another major issue. Digital literacy, Internet connectivity, and the availability of appropriate devices are prerequisites for the benefits of e-justice portals, which promise increased accessibility and efficiency. The majority of people in Bangladesh, particularly those living in rural areas, are constrained by a shortage of reasonably priced cell phones, poor computer skills, and inadequate Internet infrastructure (Bangladesh Bureau of Statistics, 2025). Therefore, the digital gap has the potential to worsen existing disparities by favouring high-income, urban users and denying rights to vulnerable populations that are already under-represented in the legal system. In order to bridge the gap, policymakers must implement digital inclusion initiatives including accessible user interfaces, public terminals, and community digital literacy programmes. Furthermore, in situations where electronic instruments are not user-friendly or adequate support infrastructures are not accessible, rapid electronic court procedures may unintentionally increase dependency on intermediaries, such as court officers or legal help bureaux. This situation can strengthen gatekeeping practices and undermine plaintiffs' true empowerment. In order to encourage self-representation and lower obstacles to admission, the design of the e-justice system must be focused on citizen-oriented tactics.

The possibility of data breaches and cyber threats is a major worry from an institutional standpoint. Because of the type of data they have and their essential role in governance, judicial institutions and law enforcement organisations are prime targets for cyberattacks. Events such as ransomware attacks, illegal intrusions, or insider threats have the potential to undermine the

judiciary's integrity and obstruct the administration of justice. Therefore, any electronic justice endeavour must include investments in robust incident response strategies, sophisticated cybersecurity measures, and ongoing monitoring.

One of these ethical concerns is that computerised judging methods may lessen human empathy and judgement. The sophisticated decisions that human adjudicators make on complicated criminal cases may be diminished by automation and algorithmic dependence on technology. There is a chance that ICT would take away the human element of justice, which would undermine confidence and the validity of adjudication decisions. As a result, e-justice systems must be designed as instruments to support human decision-making rather than to take its place, protecting the importance of judicial discretion and procedural fairness.

Additionally, the use of technology should be matched with open governance and accountability-related solutions. This would cover everything from the open application of data regulations to digital decision audit trails and channels for resentful parties to challenge errors or prejudices brought upon by technology solutions. Without these protections, technology usage might turn into a "black box", removing supervision from decision-making and increasing public mistrust. Therefore, Bangladesh should set up independent monitoring bodies and laws that ensure transparency enforcement and citizen rights safeguards under digital justice systems.

In conclusion, the digitalisation of Bangladesh's criminal justice system has enormous potential, but it also presents moral and practical issues that require careful and skilful handling. Addressing the issues of privacy and surveillance, reducing algorithmic bias, closing the digital gap, improving cybersecurity standards, protecting human discretion, and guaranteeing open governance should all be included into the planning and implementation of e-justice reforms. Only then will technology cease to be a source of fresh injustices and inequities and instead serve as a facilitator of justice.

Conclusions

This research investigated how technology affected the reform of the criminal justice system, specifically in the setting of Bangladesh. The study demonstrated the revolutionary potential and the difficulties associated with digital integration in criminal justice systems by comparing the electronic justice frameworks of the United States, India, and the United Kingdom. Although technology could significantly improve procedural efficiency, transparency, and access to justice, the results showed that its real effectiveness depended on a number of institutional, social, and legal factors that went beyond infrastructure alone.

The study concluded that the criminal justice systems in the jurisdictions under investigation had incorporated a range of digital technologies, from virtual courts and AI-assisted decision-support systems to automated case management and electronic filing, all of which enhanced judicial accessibility and efficiency for the general public. Their effectiveness was maximised when programmes were supported by strong institutional leadership, solid legal frameworks, and human-centred design methodologies prioritising transparency and usability. By eliminating case backlogs, improving information exchange, and reducing reliance on intermediaries, whole-of-government approaches shed light on a more transparent and participatory legal system. Conversely, the research emphasised that integrating technology without corresponding behavioural and legal adjustments frequently led to fragmented and suboptimal outcomes. Although Bangladesh launched pilot e-filing programmes and established virtual courts during the COVID-19 pandemic, the absence of a coherent and deliberate strategy hindered long-term development. The full benefits of e-justice were also impeded by systemic problems, such as inadequate ICT infrastructure, resistance from legal professionals, and litigants' lack of digital literacy. These similarities illustrated the need for comprehensive reforms, including capacity building, institutional cooperation, and equitable distribution of technological resources.

The paper also identified persistent risks associated with the digitisation of the criminal justice system, including digital exclusion, algorithmic bias, and privacy concerns. These challenges highlighted the importance of balancing the use of technology to enhance the administration of justice with the protection of social justice and fundamental rights. The findings suggested that, without appropriate legal, technological, and ethical safeguards, technological implementation could exacerbate existing inequalities and undermine public trust in legal institutions. Integration of these lessons made it clear that transforming Bangladesh's criminal justice system through technology required a complex and phased strategy. The ability of the public, legal practitioners, and institutions to adapt to new modes of justice delivery proved just as crucial as the availability of digital technologies. The comparative perspective underscored the importance of developing context-sensitive solutions tailored to Bangladesh's specific socio-legal environment, infrastructural conditions, and societal needs.

Ultimately, the study suggested that technology could serve as a driving force for improving the efficiency, accessibility, and transparency of Bangladesh's criminal justice system if it were deliberately integrated and supported by comprehensive reforms. Realising this potential required sustained institutional

commitment and continuous evaluation of e-justice initiatives to ensure alignment with the principles of accountability, inclusiveness, and fairness. Further research was proposed to examine how technological innovations were implemented in practice, how effective they were, and what broader social implications they produced, including issues of digital literacy, user experience, and institutional readiness.

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References

- [1] Abu Taher, M., & Jamaluddin, S.Z. (2022). Enhancing access to justice through e-judiciary in Bangladesh: A study. *UUM Journal of Legal Studies*, 13(2), 317-344. doi: 10.32890/uumjls2022.13.2.13.
- [2] Angwin, J., Larson, J., Mattu, S., & Kirchner, L. (2023). *Machine bias: There's software used across the country to predict future criminals. And it's biased against blacks*. Retrieved from <https://www.propublica.org/article/machine-bias-risk-assessments-in-criminal-sentencing>.
- [3] Bangladesh Bureau of Statistics. (2025). *Nearly half of Bangladeshi homes still without internet access: BBS*. Retrieved from <https://www.thedailystar.net/business/news/nearly-half-bangladeshi-homes-still-without-internet-access-bbs-3869531>.
- [4] Bangladesh Judiciary. (2022). *World Summit on the Information Society (WSIS) Prises 2024*. Retrieved from <https://www.itu.int/net4/wsis/stocktaking/Prises/Prises/Details/17066901664655388>.
- [5] Berk, R.A., Kuchibhotla, A.K., & Tchetgen Tchetgen, E. (2021). Improving fairness in criminal justice algorithmic risk assessments using optimal transport and conformal prediction sets. *arXiv*. <https://arxiv.org/abs/2111.09211>.
- [6] Bhattarai, P., & Chaudhary, S.K. (2025). Digital justice in Nepal: A South Asian perspective on legal-tech reforms, global benchmarks and transformative policy pathways. *International Journal of Trends in Emerging Research and Development*, 3(2), 11-16. doi: 10.5281/zenodo.15037154.
- [7] Caro, V.U. (2025). *Five ways digital technologies are transforming courts and access to justice*. Retrieved from <https://blogs.worldbank.org/en/governance/five-ways-digital-technologies-are-transforming-courts-and-access>.
- [8] Casino, F., Pina, C., López-Aguilar, P., Batista, E., Solanas, A., & Patsakis, C. (2022). SoK: cross-border criminal investigations and digital evidence. *Journal of Cybersecurity*, 8(1), article number tyac014. doi: 10.1093/cybsec/tyac014.
- [9] Chen, E. (2024). *Remote proceedings have enhanced California's courtrooms and improved court participation*. Retrieved from <https://newsroom.courts.ca.gov/news/remote-proceedings-have-enhanced-californias-courtrooms-and-improved-court-participation>.
- [10] Committee of Public Accounts. (2023). *Progress on the courts and tribunals reform programme: Twenty-sixth report of session 2022-23*. Retrieved from <https://publications.parliament.uk/pa/cm5803/cmselect/cmpubacc/1002/report.html>.
- [11] Council of Europe / European Commission for the Efficiency of Justice (CEPEJ). (2024). *European judicial systems CEPEJ evaluation report: 2024 evaluation cycle (2022 data)*. Retrieved from <https://www.coe.int/en/web/cepej/special-file>.
- [12] Dahiya, A., & Banerjee, S. (2024). Modernizing India's legal system: The need of electronic system in case management and eCourts. *ShodhKosh: Journal of Humanities and Social Science Innovation*, 5(6), 2467-2473. doi: 10.29121/shodhkosh.v5.i6.2024.3013.
- [13] European Commission. (2025). *Communication on DigitalJustice@2030*. Retrieved from https://commission.europa.eu/strategy-and-policy/policies/justice-and-fundamental-rights/digitalisation-justice/communication-digitaljustice2030_en.
- [14] Haq, M.Z., Ayub, Z.A.B., & Abdel Rahman, A.R.A. (2025). GDPR and Bangladesh's data privacy laws: A comprehensive analysis. *International Journal of Public Law and Policy*, 11(2), article number 192209 doi: 10.1504/IJPLAP.2025.145300.
- [15] Hasan, M.I., & Mia, B. (2021). Initiation of virtual court system during COVID-19 pandemic and e-judiciary: Challenges and way forward. *Daengku: Journal of Humanities and Social Sciences Innovation*, 1(1), 8-17. doi: 10.35877/454RI.daengku385.
- [16] Hasan, M.I., & Rupa, F.J. (2021). Digitalisation of Bangladesh judiciary and access to justice. *Asian Journal of Social Science & Legal Studies*, 3(3), 49-58. doi: 10.34104/ajssls.021.049058.
- [17] Haviland, G. (2025). [Technology for remote and hybrid hearings: Lessons from NCSC's Court Innovation Lab](#). *Judicature*, 109(1).

- [18] HM Courts and Tribunals Service. (2025a). *Modernising courts and tribunals: Benefits of digital services*. Retrieved from <https://www.gov.uk/guidance/modernising-courts-and-tribunals-benefits-of-digital-services>.
- [19] HM Courts and Tribunals Service. (2025b). *Common Platform: A modern digital case management system for the criminal justice system*. Retrieved from <https://www.gov.uk/government/case-studies/common-platform-a-modern-digital-case-management-system-for-the-criminal-justice-system>.
- [20] HMCTS. (2024). *HMCTS Reform Programme: Common Platform factsheet*. Retrieved from <https://www.gov.uk/government/publications/hmcts-reform-crime-fact-sheets/fact-sheet-common-platform>.
- [21] InterAmerican Development Bank. (2025). *Digital technologies for better justice: A toolkit for action*. Retrieved from <https://publications.iadb.org/publications/english/document/Digital-Technologies-for-Better-Justice-A-Toolkit-for-Action.pdf>.
- [22] Islam, M.T. (2022). An assessment of privacy regime in Bangladesh: A legal analysis. *UUM Journal of Legal Studies*, 13(2), 77-108. doi: 10.32890/uujls2022.13.2.4.
- [23] Islam, M.Z., & Uddin, M. (2023). The important role of comparative legal research. *Journal of Asian and African Social Science and Humanities*, 9(3), 31-43. doi: 10.55327/jaash.v9i3.316.
- [24] Jubaer, S. (2025). *Digital transformation in the justice system: Ecourts, case management, and legal accessibility*. doi: 10.5281/zenodo.17127616.
- [25] Kekül, H., Ergen, B., & Arslan, H. (2021). A multiclass hybrid approach to estimating software vulnerability vectors and severity score. *Journal of Information Security and Applications*, 63, article number 103028. doi: 10.1016/j.jisa.2021.103028.
- [26] Latif, M., & Innash, A.R. (2024). Digital transformation in the justice system: Enhancing efficiency and accessibility of legal services. *Journal of Indonesian Law*, 8(1), 56-78. doi: 10.18326/jil.v5i2.3468.
- [27] Liu, J. (2021). *Privacy risks in using facial recognition for contact tracing*. Retrieved from <https://www.jtl.columbia.edu/bulletin-blog/privacy-risks-in-using-facial-recognition-for-contact-tracing>.
- [28] Maralbaeva, A. (2024). *Evolution of e-justice platforms: From ICT in courts to digital justice portals*. *International Journal for Court Administration*, 16(2), 34-52.
- [29] Ministry of Justice. (2022). *Ministry of Justice digital strategy 2025*. Retrieved from <https://www.gov.uk/government/publications/ministry-of-justice-digital-strategy-2025/ministry-of-justice-digital-strategy-2025>.
- [30] National Informatics Centre. (2024). *National Judicial Data Grid (NJDG)*. Retrieved from <https://www.nic.in/project/national-judicial-data-grid/>.
- [31] National Informatics Centre. (2025). *National Judicial Data Grid (NJDG)*. National Informatics Centre. <https://www.nic.gov.in/project/national-judicial-data-grid/>.
- [32] Peay, J., & Player, E. (2018). Pleading guilty: Why vulnerability matters. *Modern Law Review*, 81(6), 929-957. doi: 10.1111/1468-2230.12374.
- [33] Press Information Bureau. (2024). *ECourts Mission Mode Project*. Retrieved from <https://www.pib.gov.in/PressReleaseIframePage.aspx?PRID=2085127®=3&lang=2>.
- [34] Rafah, J. (2023). EJudiciary in Bangladesh. *The Daily Star*. Retrieved from <https://www.thedailystar.net/law-our-rights/news/e-judiciary-bangladesh-3266741>.
- [35] Saxena, P. (2022). Access to justice for women litigants in family courts vis-à-vis prospect of a virtual court system: A post-pandemic study with special reference to the family court in Ahmedabad district of Gujarat, India. *Kathmandu School of Law Review*, 11(1), 37-51. doi: 10.46985/kslr.v11i1.2213.
- [36] Sheikh, T., Afroj, S., & Iqbal, F. (2024). Admissibility of digital evidence in court: In light of changes in Bangladesh evidence law. *International Journal of Research and Scientific Innovation (IJRSI)*, 11(8), 1617-1627. doi: 10.51244/IJRSI.2024.1108124.
- [37] Thakran, H. (2025). Towards a tech-savvy judiciary: A comparative study of evidentiary flexibility in India, the UK, US, Canada, and Singapore. *Journal of Informatics Education*, 5(2). doi: 10.52783/jier.v5i2.2803.
- [38] The Pew Charitable Trusts. (2021). *How courts embraced technology, met the pandemic challenge, and revolutionised their operations*. Retrieved from <https://surl.li/gtxztj>.
- [39] United Nations Development Programme (UNDP). (2022). *Online caselist, judicial monitoring dashboard and Amar Adalat (MyCourt) app launched*. Retrieved from <https://www.undp.org/bangladesh/press-releases/online-caselist-judicial-monitoring-dashboard-and-amar-adalat-mycourt-app-launched>.
- [40] United Nations Development Programme (UNDP). (2025). *UNDP supports digital transformation of Bangladesh's judiciary to enhance independence and efficiency*. Retrieved from <https://surl.li/ayijbk>.
- [41] Vo, A., & Plachkinova, M. (2023). Artificial intelligence and criminal justice in the US: Ethical and legal challenges. *Journal of Information, Communication and Ethics in Society*, 21(4), 550-567. doi: 10.1108/IICES-11-2022-0101.

- [42] World Bank. (2024). *Five ways digital technologies are transforming courts and access to justice*. Retrieved from <https://blogs.worldbank.org/en/governance/five-ways-digital-technologies-are-transforming-courts-and-access>.
- [43] Yesmen, N., & Ahmed, N. (2022). *The nature and challenges of cyber policing: A study on the Criminal Investigation Department (CID), Dhaka, Bangladesh*. *Asian Journal of Sociological Research*, 5(1), 210-214.
- [44] Zhao, Y. (2024). Enhancing access to digital justice: Digital governance of dispute resolution and dispute prevention in online commercial activities. *Journal of International Dispute Settlement*, 15(2), 273-304. doi: 10.1093/jnlids/idae001.

Реформування кримінального правосуддя в Народній Республіці Бангладеш за допомогою технологій: порівняльний аналіз моделей електронного правосуддя в Індії, Великій Британії та США

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Анотація

Дослідження ґрунтувалося на тому, що система кримінального правосуддя Народної Республіки Бангладеш зазнає негативного впливу зволікань, неефективності та проблем з доступністю, що створює серйозні перешкоди для правосуддя та сприяє зниженню рівня довіри громадськості. Метою цієї публікації було сформувати науково обґрунтовану, загальнодержавну дорожню карту для впровадження електронного правосуддя в Бангладеш з акцентом на реформу законодавства, цифрову інфраструктуру, інституційне будівництво та доступне правосуддя для маргіналізованих верств населення. Дослідження здійснено у формі порівняльного аналізу законодавства, поєднує право, політику й технології. У цій статті використання електронного правосуддя розглянуто як науковий виклик у сфері інституційної модернізації та правової інтеграції, що актуалізує необхідність порівняльного аналізу та контекстно орієнтованих коригувань. Ключовим аргументом стало те, що цифрові зміни, якщо вони ґрунтуються на всеосяжних законодавчих рамках та інституційній готовності, можуть стати потужним каталізатором реформи системи кримінального правосуддя. У дослідженні виокремлено масштабовані, юридично прийнятні та контекстуально релевантні механізми, які можуть сприяти реформам у Бангладеш на основі порівняльного аналізу досвіду Індії, Великої Британії та Сполучених Штатів Америки, які запровадили різні системи електронного правосуддя. Дослідження, що поєднало доктринальні та порівняльні підходи, стало внеском у сферу знань про правову цифровізацію в країнах Глобального Півдня та надало практичні рекомендації політикам, судовим органам і партнерам з розвитку. Воно продемонструвало, як технологічні реформи, що відповідають контексту, можуть підвищити довіру громадськості, захистити права людини та посилити процесуальну справедливість, пропонуючи дорожню карту для довгострокової, технологічно орієнтованої реформи системи кримінального правосуддя Бангладеш

Ключові слова:

доступ до правосуддя; порівняльне право; цифрова трансформація; ефективність судової системи; правові інновації