

JUDICIAL INTEGRITY NETWORK ASEAN

# EMERGING TECHNOLOGIES AND JUDICIAL INTEGRITY IN ASEAN

Judicial perspectives on the use, opportunities, challenges and impact of technologies on the rule of law, access to justice and court administration

**JIN**  
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ASEAN



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# Acknowledgements

This report was commissioned in 2021 by UNDP Bangkok Regional Hub within the framework of the Regional Project on “Judicial Excellence to ensure Justice for All: The Judicial Integrity Network in ASEAN”.

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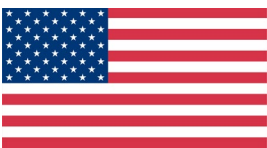
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- The Hon. Michael Kirby AC CMG
- Jennifer Marie
- The Hon. Murray Kellam AO QC

## DONOR PARTNER

This research was made possible by the contribution of the US Government, Bureau of International Narcotics and Law Enforcement Affairs (INL).



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# Context

Justice systems are constantly evolving as the needs of the communities they serve change. Technology is both a driver of these changes and a tool to meet these evolving needs. New processes and ways of communicating can address societal inequalities and make legal processes available to more people, in more languages and at lower costs.

However, the technologies themselves impact people's rights and protections and are not uniformly available across local or global communities. As actors in the justice system navigate the challenges that technologies present, the rule of law and rights protection must remain central to decision making in both individual cases and in the administration of justice.

When contemplating justice sector technologies, the judiciary, as the expert on rights protection, is a key voice in the planning, implementation, and monitoring of emerging technologies.

This survey of judicial perspectives seeks to understand how technologies are currently being used by the judiciary in ASEAN and to identify areas where additional resources or tools will help judges to participate in the technological evolution of the justice system.

Judges are stewards of the individual rights of litigants in their courtrooms, while also acting to protect the broader integrity of the justice system. Judicial integrity is critical to public confidence in the justice system and to the stability of democratic processes and institutions, economic markets, and global relations.

Judges protect the rights of all of the litigants that come through their courts. They see how women, children and vulnerable members of society are excluded or harmed.

Judges can rectify these inequalities in individual cases and can bring this perspective to systemic discussions of gender, racial and other kinds of discrimination. This judicial perspective is critical in both changes to the laws and changes in the technologies used in court operations.

The judiciary often has considerable say in if and how new technologies will be used in the legal process. However, judges do not always receive training on how the technology works. Arguments of efficiency and cost savings often drive technical adoption, with the judiciary as one of the few voices raising concerns about human rights, privacy, or procedural fairness. Other times judges, unfamiliar with the potential of new technologies, might resist change.

This can entrench systems that maintain inequalities and are prone to corruption or misuse. These pressures can put judges in a difficult position of trying to balance competing interests while ensuring that system change advances rights protection and the rule of law, rather than eroding it.

## ABOUT JUDICIAL INTEGRITY AND JIN ASEAN

The Judicial Integrity Network ASEAN (JIN ASEAN) was established in 2018 as a network of judges, connecting with each other across the region to share knowledge and approaches to protect and strengthen judicial integrity. Current member countries include Indonesia, Lao PDR, Malaysia, The Philippines, Thailand, and Viet Nam.

Strengthening judicial integrity is a protection against corruption and inappropriate influence in the justice system.

# Judicial Integrity

Judicial integrity is a multi-faceted concept that covers the conduct and practices of judges as well as the structure and circumstances in which judges work. It encompasses the principles that ensure transparent, effective and accountable institutions as a critical component for promoting SDG 16's aim of peaceful, just and inclusive societies and justice for all.<sup>1</sup>

Judicial integrity is a broad concept that includes a number of key elements of judging to ensure strong, fair and rights-respecting justice systems:

- Transparency in decision making
- Transparency in court administration
- Predictability of case timeframes
- Equal access regardless of status, money, or identity
- Equal treatment regardless of status, money, or identity
- Mechanisms to prevent bribery
- Mechanisms to prevent gendered or identity-based threats
- Due process
- Judicial independence
- Separation of political and judicial roles and institutions

In the context of new technologies, there are implications for each of these elements.

1 2030 Agenda for Sustainable Development, <https://sdgs.un.org/2030agenda>

In 2008 the Bangalore Principles were developed, articulating six values to strengthen the judiciary as “the bedrock of democracy and the rule of law” designed to protect the public from “any encroachments on rights and freedoms under the law.”<sup>2</sup>

These principles elaborate on the protections included in many international and domestic human rights instruments, drawing on Article 10 of the Universal Declaration of Human Rights proclaimed by the United Nations General Assembly on 10 December 1948:

Everyone is entitled in full equality to a fair and public hearing by an independent and impartial tribunal, in the determination of his rights and obligations and of any criminal charge against him.

The Bangalore Principles include six values:

**Value 1: Independence:** Judicial independence is a prerequisite to the rule of law and a fundamental guarantee of a fair trial. A judge shall therefore uphold and exemplify judicial independence in both its individual and institutional aspects.

**Value 2: Impartiality:** Impartiality is essential to the proper discharge of the judicial office. It applies not only to the decision itself but also to the process by which the decision is made.

**Value 3: Integrity:** Integrity is essential to the proper discharge of the judicial office.

**Value 4: Propriety:** Propriety, and the

2 Preamble, Bangalore Principles. Accessed in the [UNODC Commentary on the Bangalore Principles of Judicial Conduct](#)

appearance of propriety, are essential to the performance of all of the activities of a judge.

Value 5: **Equality**: Ensuring equality of treatment to all before the courts is essential to the due performance of the judicial office.

Value 6: **Competence and Diligence**: Competence and diligence are prerequisites to the due performance of judicial office.

In 2018 JIN ASEAN developed the [Judicial Integrity Checklist](#) and in 2020 updated it to integrate with the International Framework for Court Excellence. The IFCE has incorporated the Checklist into its global model for assessing and monitoring court excellence in [2020](#).<sup>3</sup>

United Nations Development Program (UNDP), through JIN ASEAN is continuing to share knowledge and tools for strengthening judicial integrity as part of its broader efforts to promote court excellence. In this way, judges are also engaged as critical stakeholders in countering corruption, furthering individual countries' commitments to implement the United Nations Convention against Corruption (UNCAC).

The Convention, which entered into force in 2005, identifies the judiciary as a critical institution to prevent and counter corruption.<sup>4</sup> Article 11 requires each state party to take measures to

1. strengthen integrity among members of the judiciary and prosecution services, and
2. prevent opportunities for corruption among members of the judiciary and prosecution services.

This research and the related tools related to emerging technology is one way that judges in the JIN ASEAN network engage and learn from each other and build the capacity of judges across the region as the administration of justice continues to evolve.

The issues presented by emerging technologies intersect with judges' obligations in relation to Bangalore Principles (Value 2: Impartiality, Value 3: Integrity, Value 5: Equality, Value 6: Competence and diligence) and to key aspects of the Judicial Integrity Checklist.

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3 [International Consortium for Court Excellence](#), Court Excellence Self-Assessment Questionnaire.

4 UNODC, [United Nations Convention Against Corruption](#).

# Technologies for the courts

E-justice is an umbrella term that captures any effort to administer, deliver, strengthen, or monitor justice services using digital technologies. It includes efforts by institutions like courts and governments, individuals like lawyers and human rights defenders, and private and civil society entities like technology providers and community partners.

E-justice broadly covers all kinds of digital technologies from complex case management or innovative apps to information technologies and use of online communication. It includes the tools and processes used by justice sector professionals and those used by court users and the media.

E-justice initiatives include the strategies, process (re)engineering, automation, data collection, integration of systems as well as online dispute resolution, e-filing, remote court process and technologies used to digitize, store, and provide access to legal documents and evidence.

**Digitization** is the process of converting existing processes and content from analog into digital formats. This includes developing online forms and portals to submit documents or access decisions to make existing in-person court processes available online.

**Digitalization** is the use of digital technologies to change justice processes and business models. This includes digital technologies that allow for completely new ways of delivering or administering justice.

**Digital Transformation** is the cultural change in systems and institutions through digital technology. This includes user-centred design and technologies that allow employers and users to work differently.

Digital transformation can facilitate shifts in legal and judicial culture towards more accountability, transparency, and accessibility.

Courts across the world are engaging in a variety of projects and long-term programmes, working with international agencies as partners and donors, to modernize their justice systems, including:

- case management systems,
- virtual proceedings,
- electronic filing and storage of documents and evidence,
- asynchronous communication between litigants and with the court,
- electronic scheduling, and
- the introduction of new tools such as online dispute resolution, and AI predictive tools.

Some elements of these projects were introduced or accelerated because of the COVID-19 pandemic and ensuing quarantines, which required courts to operate virtually and restructure court processes as online transactions.

The use of technology can increase speed and transparency of judicial decisions, increasing confidence, accountability and allowing for a greater public scrutiny of the system. The foundational protections of the rule of law built into justice systems may be compromised, unintentionally, by private sector technology developers. As changes are introduced, ongoing scrutiny of the impacts of technology changes on the judicial process will be critical.



## THE PANDEMIC ACCELERATION OF COURT MODERNIZATION

In the historically conservative legal sector, the pandemic has accelerated the adoption of new technologies. Online platforms, use of new processes and automation of different stages of the process have long been proposed, but often rejected or delayed as courts focus first on maintaining existing processes. While motivated by careful attention to individual rights, this cautious approach has resulted in the justice system being one of the last to adopt new technologies in countries around the world.

When the pandemic-related lockdowns started, courts, court administrators and judges moved quickly to modify processes, accept court documents electronically, hold hearings online and communicate with legal professionals and the public in new ways.

These technologies have had unequal effects – women facing violence in the home or the community may have been threatened or coerced when testifying; rural litigants who have no access to court technology may have abandoned their cases; people without technology or money may have been excluded.

As we shift from these crisis-based adaptations to permanent online and digital operations, it is critical to carefully assess the rule of law and access to justice implications of emerging technologies, including those that were adopted at the height of the pandemic.

The pandemic experiment in online or digital operations has created an appetite for more technology-based approaches to justice and has demonstrated the potential to balance both accessibility and judicial rigour.

The pandemic has created an opportunity to make significant strides forward in court modernization by building on the experiments undertaken in 2020, now informed by a more experienced and knowledgeable range of court actors comfortable assessing the new technologies in their courts.

## VIRTUAL HEARING PROCEEDINGS

Virtual hearing or court proceedings, also referred to as e-courts, remote courts or remote hearings includes video hearings and video-access to in-person courts. Remote appearances may be available to all the parties in the case or just to some participants such as incarcerated litigants, vulnerable witnesses, and experts.

Elements of virtual court proceedings have been in place in courts around the world for several years including:

- video or telephone appearances in court by incarcerated litigants from prison
- video appearances in court by vulnerable witnesses, from another location either inside or outside the courthouse
- video or telephone appearances by expert witnesses in other jurisdictions
- telephone appearances by litigants or lawyers for motions, pre-court matters and scheduling discussions
- video or telephone appearances by litigants where weather, health or distance prohibited in-person appearances

The COVID-19 pandemic and resulting lockdowns highlighted and accelerated the need for virtual courts. Entirely virtual courts in which no one, including the judge, is present in the courthouse, became necessary for the operation of the justice system in many countries during the pandemic. This shifted the focus from the traditional concept of a virtual appearance by one individual in an otherwise in-person courtroom to models of completely virtual courts. Traditional concerns with respect to virtual court proceedings, including the security of the technology and the quality of testimony in an online settings, were tested as courts rapidly adopted available technology in order to avoid delays in administering justice.

Use of video technology may not be suitable for every type of proceeding and may raise issues with respect to the meaningful participation of vulnerable individuals, including the ability of a judge to assess the veracity, vulnerability, or safety of a participant.

## ARTIFICIAL INTELLIGENCE (AI)

Artificial intelligence (AI) is an umbrella term for a wide range of methods and tools, including machine learning, facial recognition, and natural language processing.

Machine learning refers to computer systems that can learn and adapt without following explicit instructions by using algorithms and statistical models to analyze and draw inferences from patterns in data. AI uses an algorithm to apply a logical formula to data to predict or propose a result. An algorithm is the mathematical logic behind a system that performs tasks or makes decisions.

In the court context, this can result in predicting court processes or timelines or generating draft decisions. When decisions are made using a predictive algorithm, it is also referred to as automated decision-making.

Automated decision-making is used in a wide array of institutional settings, such as:

- determining eligibility for government benefits or housing,
- assessing the risk of current or future harm to a child,
- assessing the risk of future domestic abuse,
- predicting whether students are at high risk for school-related violence,
- predicting where crime will occur or who will be involved,
- recommending immigration eligibility,
- assessing the suitability of releasing a criminal accused on bail,

- recommending sentencing for criminal accused, including whether the accused is a recidivism risk,
- online dispute resolution for private matters (eg. eBay or PayPal) and civil matters, and
- recommending parole eligibility or conditions.

AI tools can be used for mass adjudication by private companies, tribunals and agencies that use mass decision-making to decide on benefits or taxation issues. These applications of AI involve *clustering* (grouping cases together to improve case processing), *triaging* (accelerating appeals based on their likelihood of success) and *quality assurance* (analyzing draft decisions against a set of indicators).

AI is used to pre-draft judgment templates for judges, make predictions or sentencing recommendations for bail, sentencing and financial calculations. It is also used to predict results for public users, including assessing the outcome of cases based on the past activities of prosecutors and judges.

Artificial intelligence is used as a tool and not as the end decision maker. An AI tool can provide information to a judge that factors in a wide amount of case law and can decrease the research time in the preparation of decisions.

AI tools embed the policy decisions of past decision makers and therefore, can also embed the bias from past decisions. Pre-drafted judgement tools may also import biases, decrease judicial discretion, and may not adequately address the specific issues faced by individuals from vulnerable groups.

Understanding and continuing to examine and assess these technologies will ensure that judges are able to fully participate in the evolution of court operations.

# Methodology

In February of 2021, JIN ASEAN initiated this research into the impacts of emerging technologies on judicial integrity. The research had two inquiry streams that have been combined to produce this report. Review of sector and academic reporting on emerging justice sector technologies has informed the range of technologies considered here.

The technology-based responses to the pandemic adopted by the JIN ASEAN member countries were reviewed, building on their respective contributions to JIN ASEAN's [Justice in the Time of COVID-19 webinar](#) and knowledge sharing. The examples of new and proposed technological changes collected through this research resulted in an understanding of foreseeable challenges for justice system actors.

An online survey was prepared with questions informed by the sector research, to inquire about the current use of these technologies in ASEAN courts.

This survey, shared with individual judges in each of the JIN ASEAN member countries, invited judges to identify the technologies they are using in their courts and to reflect on the impact that each is having on the transparency and accessibility of justice.

These individual perspectives provide a pragmatic assessment of the impact of these technologies in the specific countries, and in different courtrooms. In some instances, judges from the same court have reported having access to different technologies, demonstrating the challenges of large-scale implementation and the different needs of courts hearing different types of cases.

These firsthand perspectives identify gaps and opportunities to better address judicial integrity in the technological evolution of the court and will inform the development of new tools for the judiciary.

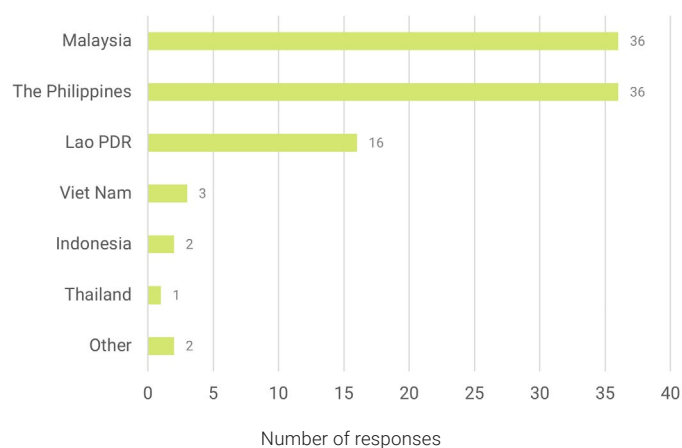
# Survey

JIN ASEAN solicited survey responses from judges in the ASEAN region between April and June of 2021. The online survey was offered in English, Vietnamese, and Lao.

## SURVEY RESPONDENTS

One hundred and one responses were received from all six JIN ASEAN member countries. Responses came from judges at different levels of court and in different positions including court administrators.

### Where are the survey respondents from?



Court	Responses
Indonesia	
District Court	1
Supreme Court	1
Lao PDR	
People's Supreme Court	16
Malaysia	
Court of Appeal	2
Federal Court	1
High Court	14
Magistrates' Court	7
Session / Township Courts	12
Thailand	
Trial Court	1
The Philippines	
Appellate Courts	6
Metropolitan/Municipal Trial Courts	10
Regional Courts	20
Viet Nam	
People's Supreme Court	2
District Court	2
Provincial Court	1

Roles	Responses
Indonesia	
Judge	1
Judicial Reform Team	1
Lao PDR	
Chief Justice	1
Judge	12
Court Administrator	2
Other	1
Malaysia	
Judge	27
Deputy Registrar	4
Magistrate	4
Judicial Commissioner	1
Judicial Officer	1
Thailand	
Judge	1
The Philippines	
Judge	29
Clerk of Court	6
Records Officer	1
Viet Nam	
Judge	5

Technologies	Percentage using this technology
E-filing	72
Video appearances for lawyers	69
Electronic Case management	66
Online forms	46
Video appearances for expert witnesses	42
Video appearances for the public	41
Virtual court reporting	20
Automated legal research tools	17
Pre-populated judgement templates	14
Online discovery	8
Predictive or Artificial Intelligence in sentencing	7
Online disclosure	6
E-Warrant of arrest and E-Subpoena	2
Automated (AI) decisions	1
Online dispute resolution	1
Other	2

The judicial observations and concerns about these technologies are explored by thematic groups.

## ONLINE FORMS AND E-FILING

Many courts provide online, fillable forms designed to make it easier to find and use court forms. Some courts also have e-filing functions that allow the user to 'submit' the online form directly, while others require the form to be emailed or delivered to the court office. E-filing was the most prevalent form of technology in use in courts in the ASEAN region with 72% use. Respondents were asked to select the type of filings permitted through e-filing platforms.

Judges expressed some concern about the risk of fraud and cyber-attack in e-filing systems and considerable concern about the security of litigants' personal data submitted through online portals.

Some judges acknowledged that they do not have enough expertise to authenticate documentary evidence submitted online. Others noted that the court process of testing the veracity of evidence, including electronically submitted documents, is sufficient to identify false documents and preserve judicial transparency.

Judges cited password protections and controlled access for litigants and lawyers as safeguards in e-filing platforms, acknowledging the trustworthiness of lawyers submitting documents. Others referred to verification codes in court processes to authenticate electronic copies.

Court forms submitted electronically	64%
Arguments submitted electronically	65%
Evidence submitted electronically by the parties	49%
Evidence submitted electronically by experts	26%
Evidence submitted electronically by the police	30%

### Survey Respondent comments:

*There is no issue with regards to document security, reliability and judicial transparency as the whole system is guaranteed by the government and is well maintained by the administrator in charge.*

*These are mere tools to aid efficacy in the conduct of a virtual hearing but does not supplant the filing or submission of the actual documents to be included in the court record/ case folder which the parties must still do. These can be considered only as "advance copies" of the documents/forms to be filed.*

*We do not have technology yet to detect authenticity of electronically submitted documents.*

*We have provision in our law to cover every aspect of security, reliability or judicial transparency regarding online documents.*

## ELECTRONIC / AUTOMATED CASE MANAGEMENT

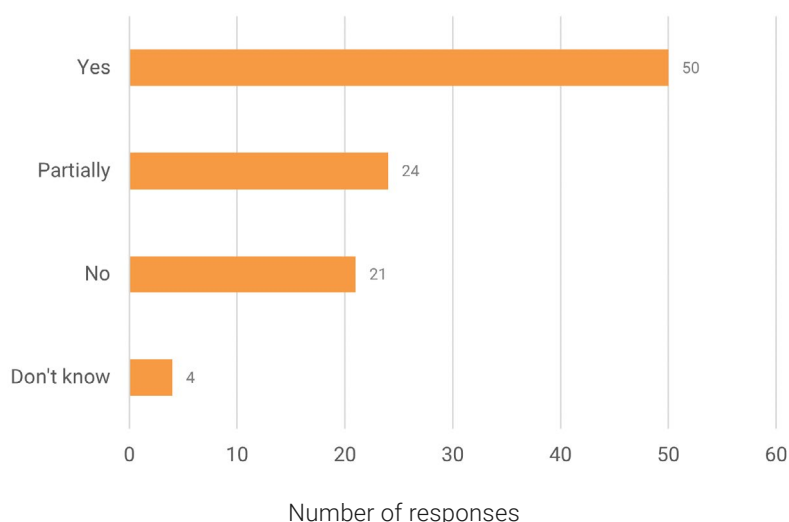
Seventy four percent of respondents reported using an electronic or automated case management system, either partially or as the complete basis for case management in their courts. They described the ease of use with only 13% of respondents describing the system as difficult or very difficult to use.

Judges responded to questions about security of the case management system and its support of the judicial decision-making process. Most felt that it was secure and provided most or all the information they required.

Those who identified limitations to the systems listed gaps in the case file, issues when cases are appealed or when more than one judge needs access to the case file. Others noted that the case management system is not updated quickly enough and that the security and confidentiality protections can get in the way of judicial access to the complete case file.

One respondent pointed out that online case management adopted during the pandemic was not arranged in a logical way and would be unworkable long-term.

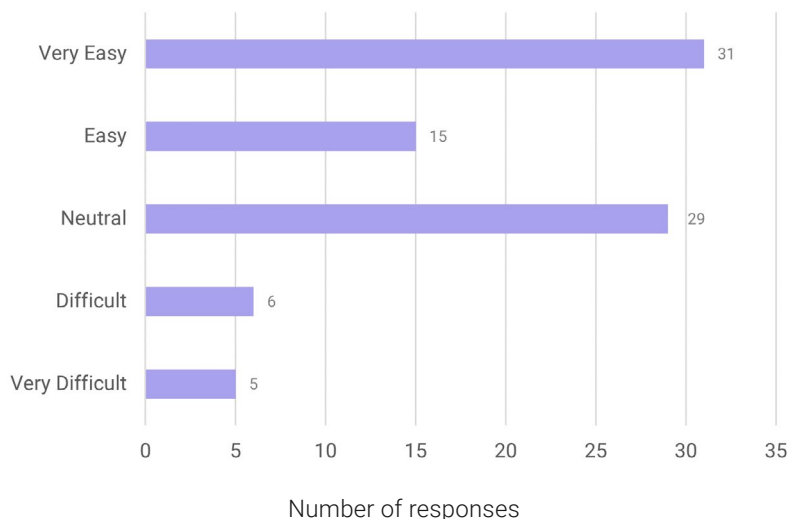
### Does your court use electronic or automated case management?



When asked how electronic case management systems affected judicial integrity, 27% of respondents report no impact. Other identified negative impacts related to the security of files and difficulty controlling who accesses court files, thereby eroding public confidence in the decision.

The majority of respondents thought that the electronic case management system improved judicial integrity by enhancing the transparency of the decision-making process and ensuring that the judge had access to all of the necessary files, even during court shutdowns.

**How easy or difficult is it for you to manage the progress of a case using automated case management?**



**Survey Respondent comments:**

*Electronic case management hastens the judge's determination to ascertain the reason for the delay in the disposition of cases.*

*Electronic case management enhances judicial integrity in that all case papers filed in the CMS are authenticated and time-stamped.*

*Electronic case management promotes transparency and avoids interaction with court personnel, parties and counsels which can be an opportunity for malfeasance.*

*It affects the integrity in a positive manner. Everything must be recorded accurately in the system, and it can be changed by the authorized person only.*

*It has a positive effect on people's trust in the judiciary.*

*It saves a lot of people and court's time. The parties they do not have to come to the court every time the case is fixed for mention and will only appear if the judge is asking them to do so.*

*It's a good idea to keep the judges unrelated to the case from accessing other people's information.*

*Since there are no physical appearance, we are unable to ascertain as to the person who log in to the system and access the data is the one who have authority to use it or not.*

*Strengthening the responsibility of each Judge.*

## VIRTUAL HEARINGS

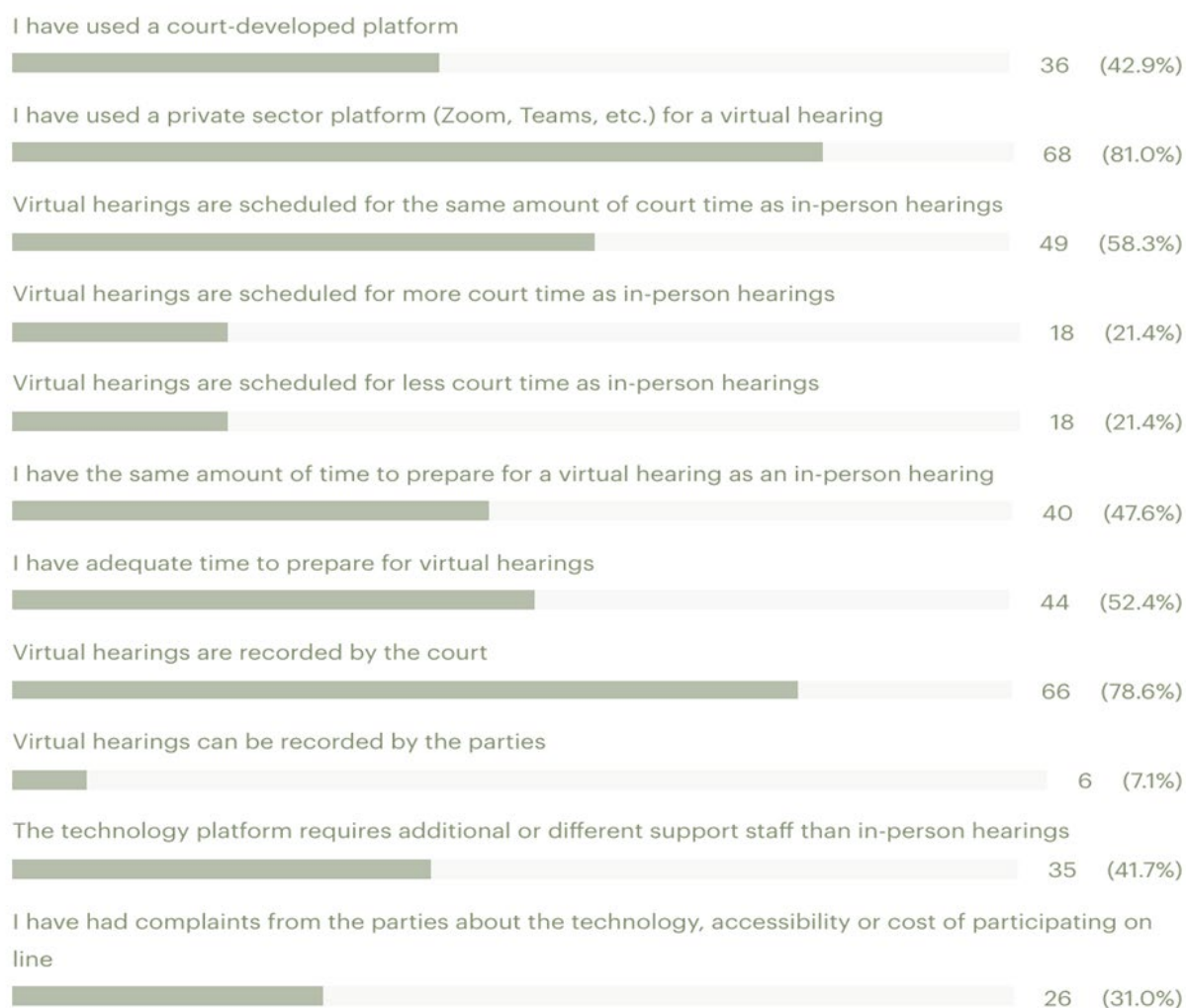
Respondents described a variety of types of virtual hearings. Some respondents reported that virtual appearances are not permitted by the legislation while others described pandemic-related online courts and others access to online appearances prior to the pandemic.

Those who participated in virtual hearings were asked to comment on the type of platform they had used and the way that the virtual hearing compared to their experience presiding over in-person cases. Respondents also shared feedback they received from litigants.

The most commonly reported complaints from the parties related to internet availability and stability, and the availability of technology.

Parties in rural areas do not have either personal or community access to the internet sufficient to participate in online hearings. Many lawyers do not have internet in their offices, creating disparity between the parties in a virtual hearing. Many judges heard complaints about the audio and video quality during the hearing.

Virtual hearings during the pandemic may require home-based connectivity for the judges, lawyers and court staff. In other cases judges paid for the increased internet usage or the video platform subscriptions personally.





The digital divide disadvantages vulnerable groups including those in rural areas, people without access to technology, elderly litigants and those with literacy and linguistic barriers.

Judges reported difficulty assessing credibility or viewing evidence, both physical and documentary, on a video platform. Others acknowledged that it is difficult to prepare witnesses for a virtual hearing and many were confused by the technology and the process, requiring court staff to provide tech support during the hearing.

Both parties and judges expressed skepticism that the accused would be treated the same way online as in-person.

When asked to break down the availability of video appearances for different court users, judges differentiated between appearances for lawyers, public/parties and experts.

When asked about the impact of virtual hearings on judicial independence, integrity, or the rule of law, 45% of judges stated that they saw no impact.

Video appearances for lawyers	69%
Video appearances for the public	41%
Video appearances for expert witnesses	42%

Many respondents raised concerns about assessing the independence of witnesses or ensuring the witnesses were not being threatened or coached while testifying.

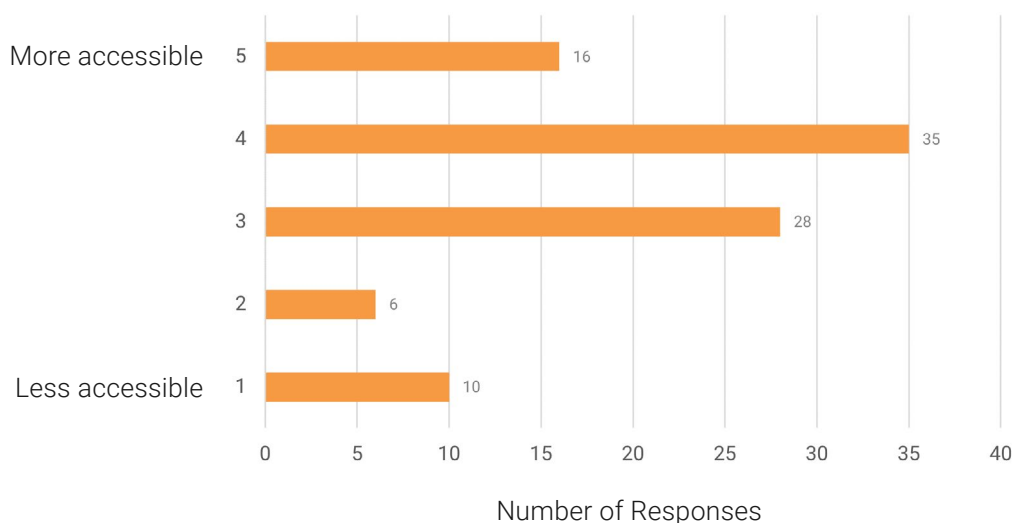
Judges expressed concern about who else is present in the room with witnesses and the visibility of the online court proceeding to observers or to surreptitious recording.

Another respondent raised concerns about the open justice principle stating that the right to confront a witness in a criminal case is limited online.

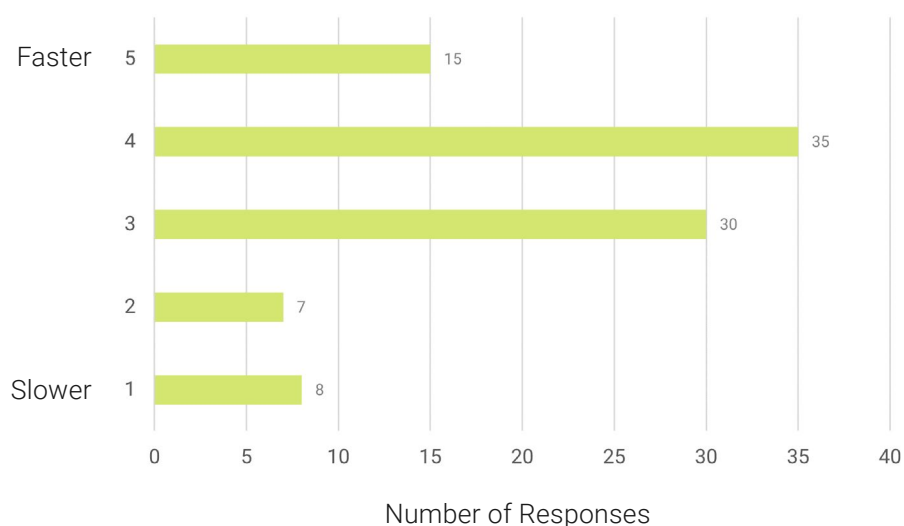
The formality of the courtroom was cited as one of the features of a typical court process that is lost in the online environment. The solemnity and dignity of the proceedings are reduced and lawyers and witnesses dress casually and behave in more casual ways, undermining the importance of the event for litigants.

Despite these concerns, respondents recognized that virtual hearings have provided access to court processes during the pandemic and reduced the need to travel to cities or make frequent court appearances.

### How are technologies affecting the ability to participate from home or from their communities?



## How are technologies affecting the speed of trials?



### Survey Respondent comments:

*Lack of actual human interaction when cases are conducted.*

*In criminal cases, virtual hearing is not a proper method as a witness may not see clearly the photographs or labels attached on any apparatus/object eg. the label on the bottle of urine sample in drug cases, writing in the exhibits/documents during trial when questioned by the Deputy Public Prosecutor or the defence counsel.*

*Issues raised have almost entirely been related to the lack of familiarity with technology.*

*Issues with audio and limited or poor network access that interrupted virtual appearances by parties.*

*Litigants frequently ask the court staff about how to do use the application, how to install and all problems relating thereto.*

*In the spirit of public service, staff became a tech support for litigants and even to lawyers too. This added to the many functions that staff need to perform.*

*Lack of opportunities for young lawyers and chambering students to be exposed to the decorum of the court and advocacy skills.*

*Question of jurisdiction if the judge is not within his territorial jurisdiction; question of venue if the witness is testifying while abroad.*

*Technology should be included in court hearings, such as human trafficking cases, lawsuits and other technology-related cases.*

*The inability of lawyers to ensure that witnesses are not coached and the difficulties of marking exhibits.*

## ARTIFICIAL INTELLIGENCE (AI)

When asked about the use of artificial intelligence or machine learning in their courts, 7% reported using predictive technologies in sentencing, 17% using automated research tools that rely on algorithms and 14% using prepopulated judgement templates that may have a machine learning component. AI and machine learning is not yet in use in case management or other aspects of court administration in the region.

When asked about using predictive data, judges identified data generated and provided by both the court (9 responses) and from experts in a case (3 responses) and from other sources (4 responses). This data was described as helpful. One respondent described machine learning in the sentencing context as including a private sector system that analyses key sentencing factors including recidivism, aggravating, and mitigating factors, and then proposes a penalty. One judge described a project in development that will use predictive data in personal injury cases, based on the Malaysian court's past decisions generated by legal publishers.

Another pointed to Indonesia's online database of decisions that is currently being accessed as source data for machine learning. Another referenced the court's Artificial Intelligence team working on sentencing data.

In Malaysia, a voice to text recording system is auto-generating transcripts based on a machine learning platform that will be operational in 320 courtrooms in late 2021. Other respondents explained that there was not enough data available to analyse or use to train an algorithm.

The machine learning systems in use and in development are being managed by the courts, though in some cases developed internally and in others by a private sector partner. Sixty-eight percent said that they had not received any or adequate information about the machine learning data source or process. Only four respondents expressed confidence in the source of the data.

### Survey Respondent comments:

*I believe that human judgment is better than an AI judgment based on the principle that the results of an AI app depends largely on the inputs presented and nothing more.*

*It is different from human thinking.*

*It is somehow abolishing the subjectivity and it is going to transform the judiciary to a crime-settlement-machine.*

*Judges may become too dependent on AI, independence and integrity may be affected depending on how data is supplied to the AI, and the quality of the decisions/resolutions may suffer.*

*Judges who do not have the knowledge and ability to use technology are also the target of bad people.*

*Machines have no feelings. It will be hard for the machine to determine the credibility, truthfulness and reality of the testimonies of the witnesses and the evidence submitted.*

*There may be over reliance on AI with the result that human exercise of judicial discretion may be subordinated or even surrendered to the efficacy and convenience of AI.*

*AI will not be as kind as humans.*

*Without complete data, the AI based decision making might lack of accuracy and unjust to parties.*

When asked about the advantages of AI and machine learning in the court process, judges overwhelmingly cited faster trial processes and consistency in decisions as the primary benefits to both the public and the justice system.

In addition, respondents pointed to AI as a tool in protecting judges from allegations of bias, avoiding human errors, achieving greater efficiency, and increasing the capacity of the court to address case backlogs. AI is seen by judges as improving transparency, fairness, and public access to the decision-making process.

When commenting on specific contexts, most of the judicial responses focused on sentencing consistency and increased efficiency. One judge commented that AI/machine learning is not planned in their court but would be a great asset. Others commented on the need to maintain the human elements of judging that produce decisions based on humane principles.

When asked about their concerns about AI, judges expressed doubt about the rigour, accuracy and sufficiency of the data fed to the algorithm, citing obsolete case databases as a faulty basis for machine learning.

Others described AI as a 'blackbox' that undermined court transparency. The security of the data and of the algorithm itself is a concern in the context of hackers and technology failures.

Judges raised concerns about human elements of judging including ethical frameworks, and a concern that an AI system would be biased, too strict and lacking a human feel. AI was described as prone to generate authoritarian decisions.

Despite these concerns, judges remain interested in accessing data or recommendations based on AI while retaining the autonomy to accept, reject or modify the result.

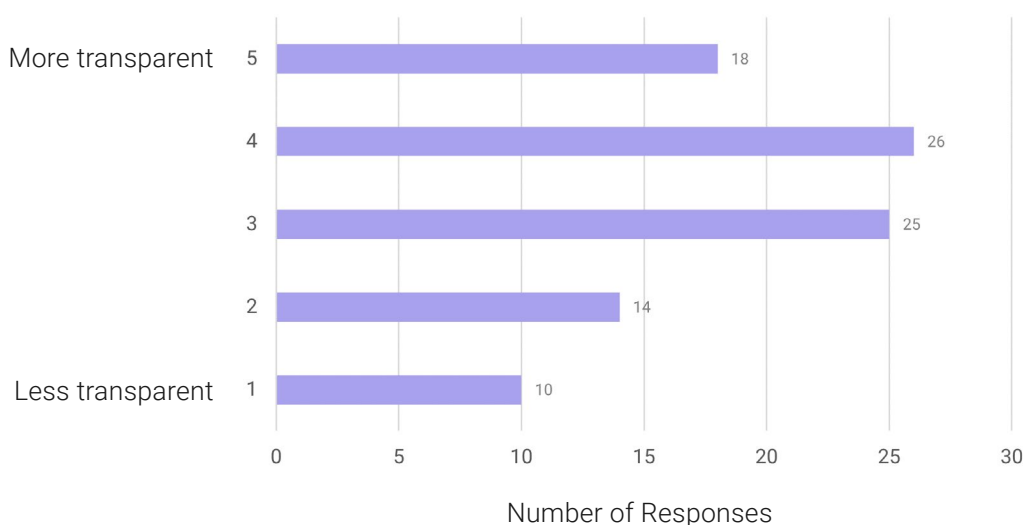
## COURT TRANSPARENCY

Survey respondents commented on how emerging technologies are affecting media access and public perceptions of court and decision-making transparency.

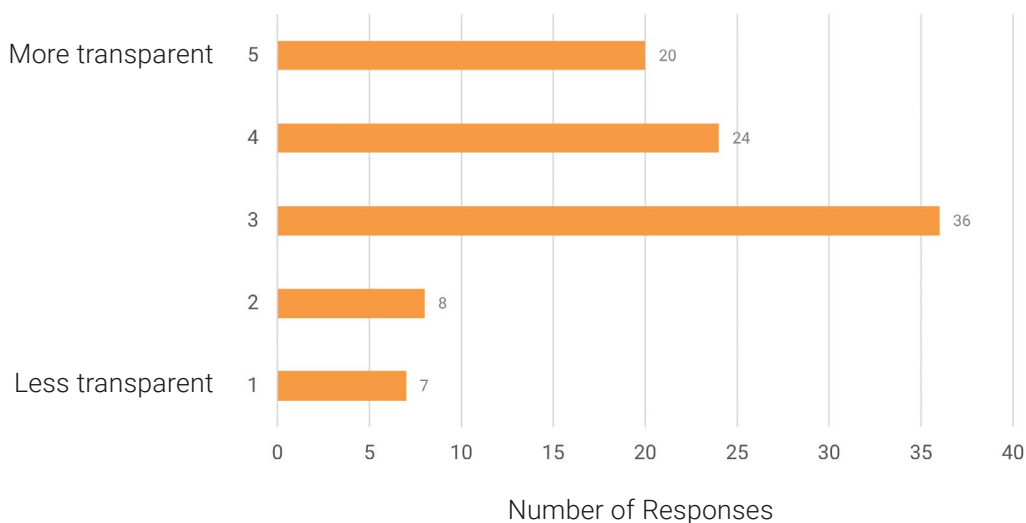
The consistency of survey responses demonstrate that new technologies are making it easier for the public and the media to observe and learn about court processes and to read and understand court decisions.

Public confidence in the justice system is critical and these consistent judicial perspectives show a positive trend to more transparent court processes and decision-making as people are better able to understand and trust the decisions of the court.

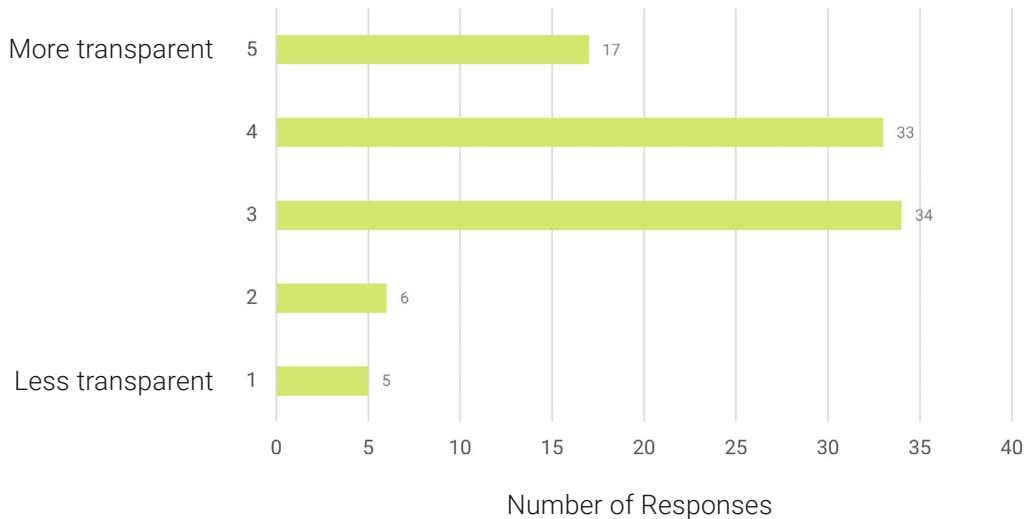
### How are new technologies affecting media access



### How are new technologies affecting the transparency of the hearing process?



## How are new technologies affecting decision transparency?



## ACCESS TO JUSTICE

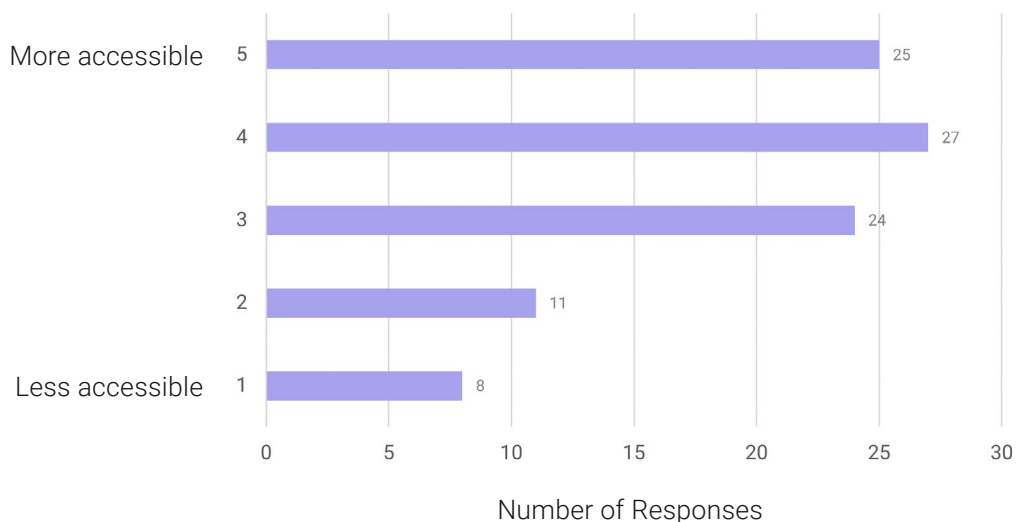
Sustainable Development Goal 16 aims to provide *justice for all*. The UNDP is committed to *leave no one behind*. When considering new technologies and changes in institutional practice, it is important to consider how these technologies are affecting all court users.

Technology often has both positive and negative impacts on the accessibility of justice. Increased use of automated processes can reduce the cost of legal services making legal resolution affordable to more people.

However, the devices and internet services required are out of reach of many people whether because of the lack of infrastructure or their economic status.

Technologies hold great promise for people with disabilities, offering ways for people to communicate directly with the judge without having to rely on someone to read documents out loud or speak on their behalf. For the elderly, new technologies are often unfamiliar and intimidating. Women facing violence may benefit from being able to testify from a remote location, though it is more difficult for the court to protect against coercion or threats.

## Are new technologies making courts more accessible to everyone?



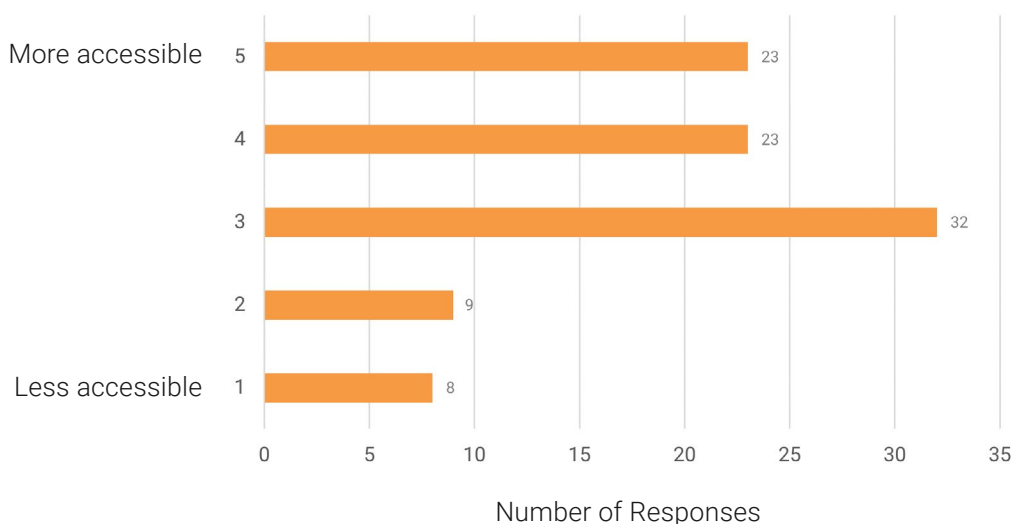
Assessing access to justice is important at all stages of system change. Judges, responsible for protecting individual rights and committed to equality as one of the six values of judicial integrity, bring a unique perspective to the planning of new technologies.

Judicial involvement in the design process can help to ensure that technologies do not obscure critical data about systemic gender and racial discrimination.

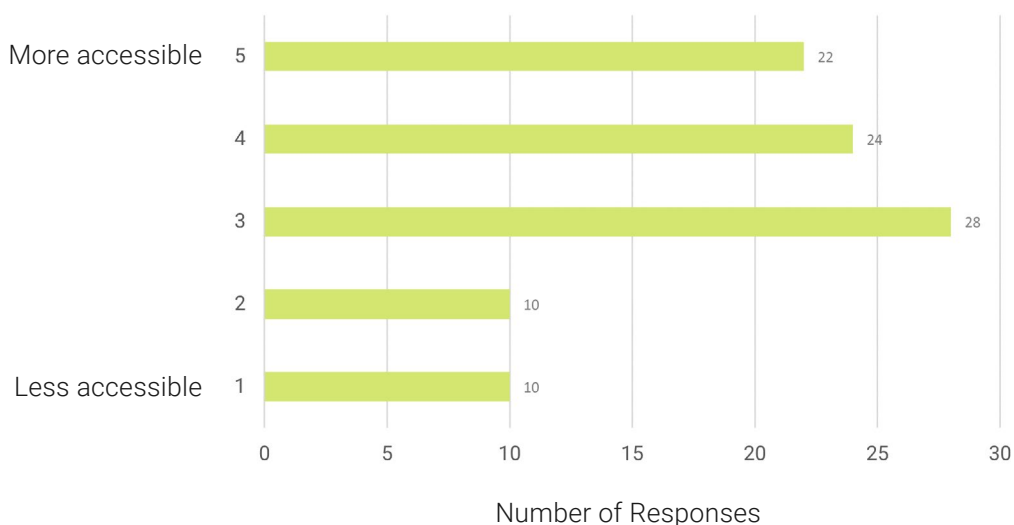
When asked about the impact of emerging technologies on access to justice, judges emphasized the positive benefits of faster processes and ease of filing documents. Many respondents acknowledged that virtual hearings make it easier for people from rural areas to attend hearings without the cost of travelling to the cities.

Respondents stated that new technologies increase transparency and make the court more agile and responsive to changing public needs.

### Are technologies making courts more accessible to women?



### Are technologies making courts more accessible to people with disabilities?



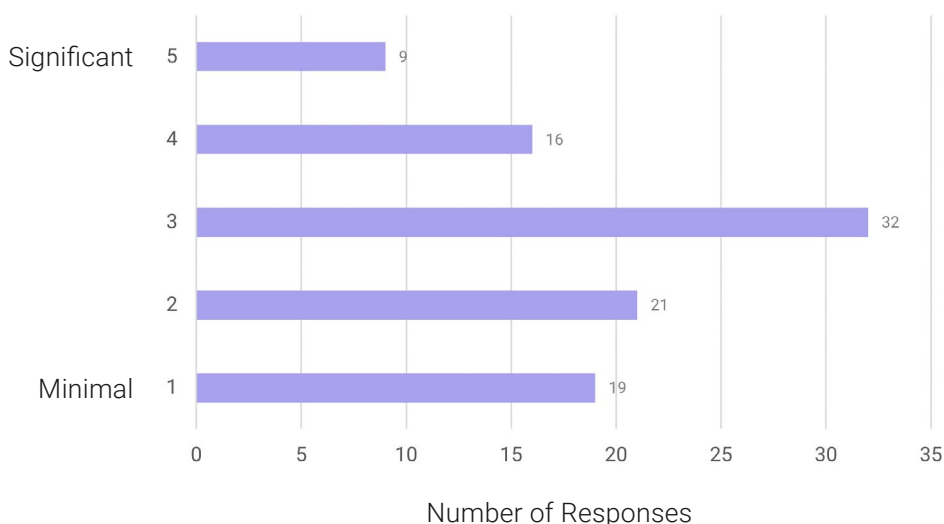
However, judges acknowledged that new technologies do not make courts more accessible to everyone. Literacy, internet access, and economic status remain considerable barriers to using technology.

These disparities in access are maintained, whether in-person or online. As one just stated: “In face-to-face trials, they have no money to go to court. In virtual trials, they have no access to cell phones or they do not have the technical know-how.”

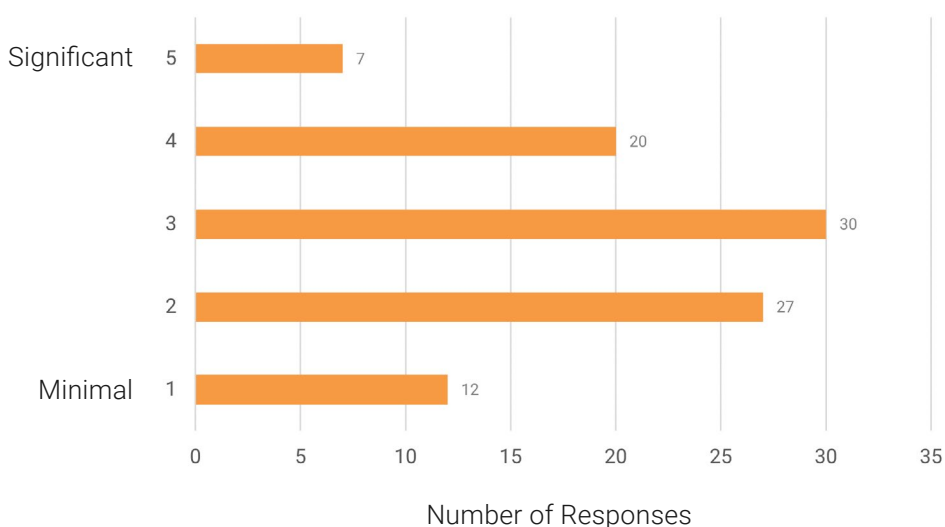
When asked to comment on access to justice concerns, judges reiterated the impact of disparities in internet quality and access to technology. Others commented that technology may lead to less need for human judges and advocates, resulting in a more rigid, less human approach to justice.

Judges expressed concern about the confidentiality of vulnerable and child witnesses. Others commented on the need to carefully assess new technologies and provide thorough training to judges and court staff.

### Is economic status a barrier to people using these new technologies?

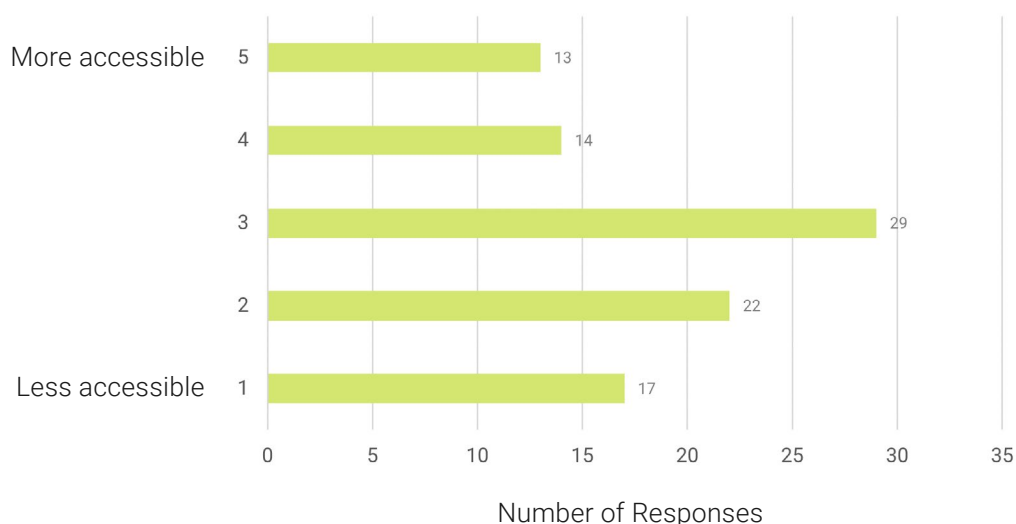


### Is education level a barrier to people using these new technologies?





## How are technologies affecting access to justice in rural areas?



### Survey Respondent comments:

*In this time of pandemic when the persons deprived of liberty specially cannot appear personally in court, the virtual court hearings make it possible for them to attend the trial in the comfort and security within the jail premises; less work also for the jail personnel in that they do not have to bring around, exposing them to security concerns, these persons deprived of liberty.*

*Mobile apps significantly increase access to justice. Public can access information, attend virtual hearing, pay fines for traffic summons or criminal offence, pay bail, pay filing fee, etc via smartphone from anywhere, anytime.*

*More chance for people to self-represent in the court proceedings*

*More transparent because once the documents uploaded in the system, there is no way the documents to be lost or be altered after the filing.*

*Technology allows court users to promptly request/receive data/information from court.*

*Technology can be scammed by certain parties, especially on documents.*

*The poor and the computer illiterate may find new technologies challenging.*

*Transparency, increase trust in the government, increase trust in the judiciary, saves time to litigants and practitioners.*

*As long as there is a desire to learn new things, to adjust and adapt to emerging new practices, to have an open mind, flexibility - there will really not be much of a concern.*

*Technologies must be maintained and incorporated after the pandemic and not to be discarded when we return to "normal" as we have experienced the advantages of technology in the administration of justice.*

*The platforms used must be stable, accessible, and reliable. It should be easy to use for all stakeholders, regardless of wealth, education, social status, gender, or affiliation.*

## PRIVACY / DATA PROTECTION

Most respondents were not familiar with the details of privacy and data controls but were aware that their court or IT departments had protocols in place. Online systems are password protected with different levels of access for different kinds of users.

There is a general concern about hacking and the security of personal data however most judges indicated that the court and government are putting protections in place including regular audits, log history and risk management strategies. Courts are actively engaging with their technology service providers and demanding transparency in the data handling procedures.

In cases where witness identity needs to be protected, technology offers additional ways to ensure that a vulnerable child witness does not have to testify publicly. Some courts keep separate secure systems for court data with internal controls on access and storage. Others only admit hearing participants to online environments, limiting public access to courts, but also ensuring the privacy of witnesses and litigants. Some cases only allow lawyers to access virtual courtrooms.

When asked if judges are receiving adequate information about the data and privacy protections of court technology, 51 percent of respondents said no. Forty-one percent reported that private sector technology providers have access to court data for technical reasons or to store court files. Another 22% did not know if private sector providers had access and 35% reported that no private sector actors could access the content of court files while providing technical support. Judges expressed concern about the protocols for limiting this access.

## GENERAL COMMENTS

Respondents were invited to share any general comments about emerging technologies. Many reiterated comments raised earlier in the survey, expressing their enthusiasm for technologies that improve the public's access to justice while raising concerns about their own understanding of how the technology will impact court transparency.

Judges acknowledged that in questions of judicial conduct and integrity, technology presents new challenges to ensuring the accuracy and scope of evidence that decisions are based on. Judges will continue to bring their own high ethical standards to these changes in court operations.

**Survey Respondent comments:**

*It enhances the judicial integrity because of the nature of the system itself. Less human interferences, the better. Truthfully, technologies are strengthening the judicial integrity as a whole.*

*Judicial integrity is first and foremost about the character of any member of the judiciary. Honesty, dedication, humility, commitment, a clean heart, a genuine passion to serve, and an uncorrupted mind. While technology may lessen the burden on the courts and speed up the judicial process,*

*It is the integrity of the judges and the court personnel that matters most. Everything else will follow.*

*The technology is an effective way to save time and costs and it does not affect the decision-making process of a judge.*

*There should be a training program to transfer knowledge on the use of new technologies to judges across the country.*

*Given the fast pace of emerging technologies, and judicial integrity, our current system needs to catch up and we need to rethink how we can cope and adjust to the challenges in terms of personnel training, infrastructure, case processing, and digitization of court records. However, all of these must be accomplished by adopting new technologies that are proven to be tamper-proof in order to maintain the confidence of the public in the court's ability to adjudicate matters in an impartial manner.*

*I am one of the judges who are technologically challenged. It would be helpful if webinars are conducted to improve our capacities and that IT personnel be made available to complement the existing court staff.*

*The technology is an effective way to save time and costs and it does not affect the decision-making process of a judge.*

*There should be a training program to transfer knowledge on the use of new technologies to judges across the country.*

# Conclusions

The survey data reveals the urgency of judicial participation in decisions about the technologies in use in their courts. Technologies are already in use, or in development to different degrees in each country - even within each country. Without active judicial input, these technologies may perpetuate inequality, erode public confidence in the judiciary and obscure critical information that judges require to make independent, transparent decisions.

Emerging technologies are being introduced to judges, not led by judges. Judges are not typically engaged in the design, selection, and implementation of new technologies. Judges commented on their limited access to information about who provides the technology and how it works.

Judges expressed concerns that aspects of the trial process, once within their control, are now concealed by the technology. They are uncertain about the veracity of documents received electronically or the security of online hearings. Their doubts about machine learning reveal how these complex technologies obscure parts of the decision-making process. Yet despite these concerns, survey respondents expressed optimism about how new technologies will improve transparency, protect against corruption, and improve access to justice.

The pandemic has revealed the lack of preparation across the justice system for large-scale disruption. Active participation in technological change will ensure that judges are ready for future local and global events, able to adjust quickly.

Attention to the components of judicial integrity is critical to cultivating and maintaining public confidence in the justice system. Judicial integrity, primarily a measure

of the individual judge, is premised on the judge being able to protect their courtroom and processes from undue influence. The judge monitors the evidence and interactions, ensuring both that there is no influence and no perception of influence.

Technology design and development typically uses an iterative process where each change is monitored, evaluated, and improved in an ongoing cycle. This practice of iterative design is at odds with the tradition of judicial autonomy. Many judges resist the tracking of their case outcomes or scrutiny of their court processes. To eliminate opportunities for corruption and to pursue equity of access, monitoring and evaluation must become part of judicial culture, without interfering with judicial independence. This will allow judges to be actively involved in the design of court systems.

Some respondents' comments reveal uncertainty while others shared their enthusiasm or reluctance. Some judges are comfortable or eager to use new technologies and others are nervous or resistant. Judges must be given the training and exposure to new technologies to enable not just the use of these technologies but their participation in the design of new court processes.

While judges will not have primary responsibility for the technical aspects of court processes, they must remain active in the development and monitoring of these technologies so that they can bring their judicial expertise into the design process and can identify risks to human rights and the rule of law.

The autonomy of the courts from the government is important to maintaining judicial independence and protecting the rule of law.

Governments frequently appear in court as a litigant, in criminal and civil matters. Government control of court technologies can undermine public trust that the judges are making independent decisions.

As technologies change court operations, judges must be equipped to participate in the evolution of justice. They must have a basic understanding of technologies and the vocabulary and capacity to identify when technology is affecting trial fairness and ensure equality of access within the technological platforms.

Judges have a key role to play in identifying the needs of court users, particularly vulnerable users. As new technologies promote transparency and efficiency, judges are the ones who will ensure that individuals in their courts are not left behind.

New technologies, historically developed to meet the needs of the majority of literate, tech-savvy, middle income users, are not available to all women, to people with disabilities, to linguistic minorities. New technologies must not only protect, but also enhance gender equality and combat discrimination. Without the active participation of the judiciary, the needs of the most vulnerable users will be left out of the design process.

Based on this snapshot of judicial perspectives from the ASEAN region, it is clear that judges can bring their expertise into the tech design process. To support judges taking leadership roles in the evolution of courts, whether in senior administrative roles, appellate courts or at the rural trial level, judges will need new skills and knowledge. This research shows that there is a need for judges to:

- Understand machine learning/artificial intelligence well enough to ask questions about the data being used to train the algorithm and identify gender, racial and identity-based bias in machine learning processes

- Receive detailed briefings about the scope and range of decisions being used to train AI systems
- Participate in preparing litigants and witnesses for the virtual court process, decorum, and technology, prior to participating in online courts
- Raise rule of law and trial fairness criteria when new technology is proposed, asserting their judicial role of protecting these key principles
- Scrutinize evidence and witness testimony presented through new technologies
- Promote understanding of the court processes with litigants and witnesses to maintain and strengthen public confidence, as the processes evolve
- Support judicial colleagues to build the skills and understanding of the new technologies required to maintain their caseload and adapt to technological changes
- Maintain rigorous attention to avenues for corruption by peers and by court staff in both traditional and technological court processes

Without active judicial participation in the technological evolution of court operations in ASEAN, there is a risk that people's personal legal crises will become the site of individual rights breaches and privacy violations.

Obscuring the evidence and decision-making process through technologies that judges cannot explain to litigants will erode transparency and public confidence. Abdicating trial fairness to private tech companies or to system designers tasked with achieving efficiency will undermine court transparency.

Keeping up with emerging technologies and bringing rule of law and trial fairness concerns into the design of new court processes is one of a judge's obligations and critical to maintaining judicial integrity.



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