

Judicial Perceptions and Use of Technology

Portuguese Survey Report

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Report



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Introduction

This research report explores the perceptions of Portuguese judges from two jurisdictions, judicial and administrative and fiscal, on how technology is used in the context of their work to inform broader discussion about how technology can reshape the workload of judges in the future.

This report was elaborated by a group of researchers of the Permanent Observatory for Justice (OPJ) at the Centre for Social Studies of the University of Coimbra, Portugal, but is part of a much larger research project that is being led by Tania Sourdin from the University of Newcastle, Australia, and Brian Barry from Dublin University of Technology, Ireland. The international research project sought to assess different judges' views about the application of technology to their role and the court's uptake of newer technologies, through the application of a survey. As judges around the world must grapple with technological change and its impact on their role and on the judicial systems, which has only been emphasised by COVID-19, and as jurisdictions around the world are adopting technologies in different ways, truly transnational collaborative research projects such as this have a significant added value.

The report is organized in three parts. Firstly, it presents the methodology adopted in Portugal, in terms of the translation process and definitional differences, approval and support of the National High Councils, ethics approval and distribution and dissemination processes. Secondly, it presents the demographics of the Portuguese survey participants and responses to each question with additional cross variations. Finally, the last section presents the analysis and discussion of the results.

Portuguese methodology

Survey

The survey was developed collaboratively and applied throughout the period 2019-2022. The survey included some questions from the University College London's 2020 UK Judicial Attitude Survey.

The survey questions were grouped around the following categories: 1) demographics of the respondents, 2) judicial resources and digital working, 3) the judiciary and technology, 4) working conditions, 5) training and personal development, 6) change in judiciary, 7) being a member of the judiciary, and 8) psychological distress among the judiciary. These questions formed the base of the survey. Nevertheless, to ensure accuracy, each jurisdiction that desired a multilingual survey was responsible for providing a translated version of the English version. The Portuguese team provided a translated version of the survey.

In the design phase, a number of unique challenges arose due to the global nature of the research. Many of these considerations were a result of cultural and language/definitional differences between the jurisdictions

involved in the study. In the Portuguese survey, one of the challenges concerned the inclusion of definitions and questions related to the nature of full-time judges and circuit courts. Firstly, in Portugal, judicial courts' judges and administrative and tax courts' judges may not carry out any other duties, be they public or private, except for unpaid teaching or scientific research in any field of the law, or the participation in specific commissions or similar designated functions. Thus, with a few exceptions of judges who work (full or part-time) at institutions such as the High Councils and the Centre For Judicial Studies¹, all Portuguese judges work on a full-time basis. Secondly, similar to what happened in Ireland, the concept of a judge being 'on circuit' does not apply in Portugal. Nevertheless, the research team opted to maintain the three questions (Question 2 'Do you work as a full-time judge?', Question 6 'Please indicate if your work involves Circuit Courts', and Question 7 'If yes, what proportion of your work time is dedicated to Circuit Court work?'), adding definitions in Portuguese language to improve clarity.

Approval and Support from the Portuguese High Councils

The Portuguese court system contains two major jurisdictions: 1) judicial; and 2) administrative and fiscal. In both jurisdictions, the courts are organized into three levels, the higher-ranking and territorially wider (supreme courts), the second instance (courts of appeal) and the lower courts (courts of first instance). The judicial courts deal with ordinary criminal and civil matters, whereas administrative and tax matters are heard in the separate administrative court system. In spite of the two jurisdictions, there is only one career for judges, although there are two High Councils - the High Council of Judges and the High Council of Administrative and Tax Courts- which have the responsibility for managing careers and disciplinary action for judges acting in each jurisdiction. Thus, support from High Councils was sought to obtain authorization and support the survey.

Formal e-mails were sent to the President of the High Council of Judges and the President of the High Council of Administrative and Tax Courts providing a brief background of the researchers and research group, outlining the aims of the project and including a draft of the survey. The e-mail highlighted that the participants' responses would be deidentified and anonymous, and the research team requested their support in distributing and disseminating the survey. Full support was obtained from both High Councils, and the invitations with the link to participate in the survey were sent by them via e-mails to all judges working in courts.

¹ Centro de Estudos Judiciários is the Portuguese institution responsible for both the initial and ongoing training of judges and public prosecutors, as well as training initiatives at an international level.

Ethics Approval

The ethical approval for the Portuguese Survey was lodged with the Ethic's Commission of the Centre for Social Studies. The application outlined the background of the project, the aims of the research, as well as a summary of the research methodologies, namely the recruitment procedures and selection of the participants.

A particular focus was given to consent procedures. It was indicated that a Participant Information Statement (PIS) would be available online for participants' information and consideration prior to commencing the survey. Informed consent would be obtained from the participants once they entered the survey, but prior to commencing, i.e. consent was obtained before Question 1. Once the survey was formed, a 'force response' feature was inserted in order for the participant to respond regarding consent before he/she could continue to the first question. If the participant indicated he/she did not consent to answering the survey, the survey would terminate.

The application also included information regarding data storage and protection. The data from surveys conducted in every country would be stored by the Australian research team on the secure online survey platform QuestionPro. Additionally, the data would be stored in such a way as to preserve anonymity. Specific storage conditions included that the data would: be retained for a minimum period of five years, restored electronically within a password protected QuestionPro site only accessible to the research team, except as required by law, and that this information would be provided to participants in the PIS.

Pre-review feedback indicated that further clarification in some aspects of the ethics application was required, particularly regarding data storage and protection. Participant Information Statement (PIS) was amended to include the statement that research results would be retained securely for a minimum period of 5 years from completion of the research at the University of Newcastle (Australia) and at the Center for Social Studies (CES), in accordance with the University of Newcastle's Research Data and Materials Management Guideline², as well as the General Data Protection Regulation and the Code of Responsible Conduct in Scientific Research, which is based on the principles, rules and procedures of the European Code of Conduct for Scientific Integrity (ESF/ALLEA).

The approval was granted after addressing all of these aspects. A copy of the ethic's approval can be made available upon request.

Distribution

Survey invitations were sent via e-mail, in April 2022, by the Portuguese High Councils, and included both a link to access the survey and to download the Participant Information Statement (PIS). The PIS included

² Please see <https://policies.newcastle.edu.au/document/view-current.php?id=72>.

important details about the research team, the purpose of the research project, and participation information regarding voluntariness, consent, estimated time involved, risk and benefits, as well as a summary of the survey sections. The PIS also outlined how participants' privacy was going to be protected and the intended use of the data.

Additionally, the research team contacted the Portuguese judge's professional association (Associação Sindical dos Juízes Portugueses - ASJP), providing information on the project and asking for their support in the dissemination of the survey. The ASJP appealed to the participation of judges in the survey through their mailing lists and online platform.

The survey was online between April 20th and May 20th of 2022 and had a response rate of 12.8% (258), considering the total of 2 021 judges working in all Portuguese courts.

Survey results

A total of 261 judges agreed to participate in the survey. Nevertheless, the Portuguese team decided to exclude three participants, because they selected a country other than Portugal as their country of professional practice. The overall completion rate of the survey was 58% (n = 152). A total of 258 respondents' data was analysed. However, as answers to some questions were optional, not all questions were answered by the whole sample. Therefore, the total number of responses (i.e. the sample size) for each question is presented. Responses to each question in the survey were analysed using descriptive statistics, but also cross-tabulation to compare the results between first and second instances courts' judges. Survey findings are summarised based on the eight broad categories or themes mentioned above.

Section 1: Demographics of the Respondents

Gender, Age and Education

Respondents were asked to answer questions about their personal characteristics related to gender, age group, and educational background. Table 1 summarises the personal characteristics of all respondents who chose to answer this part of the survey.

Table 1. Gender, Age, and Educational Characteristics of Respondents

Personal Characteristics	n	%
Gender (n= 157)		
Female	98	62.4
Male	59	37.6
Age group (n = 156)		
Under 35	9	5.8
35-39	22	14.1
40-44	21	13.5
45-49	33	21.2
50-54	39	25.0
55-59	16	10.3
60-62	7	4.5
63-65	7	4.5
66-67	1	0.6
68-69	1	0.6
First generation of my family to attend university (n = 157)		
Yes	80	51.0
No	77	49.0
First person in family history to hold a law degree (n = 157)		
Yes	92	58.6
No	65	41.4

The majority of respondents, who provided answers about their personal characteristics, identified themselves as female (n = 98, 62.4%), a slight over-representation of women which reflects the already known increasing number of females in the legal and judicial professions in Portugal. The age group most frequently reported was the 50-54 years one (n = 39, 25%), closely followed by the 45-49 years group (n = 33, 21.2%). Around half of the respondents were part of the first generation in their family to attend university (n = 80, 51.0%), and an even higher percentage of respondents were the first person in their family to hold a law degree (n = 92, 58.6%).

Professional Background and Judicial Caseload

Respondents also answered questions about their professional background as a judge in the first section of the survey. Table 2 summarises the professional characteristics of the respondents.

Most respondents started working as a judge in court before 1995 (n = 56, 23.5%), and have been in their current main judicial post between one and five years (n = 56, 23.5%). Only one respondent was not employed as a full-time judge (0.4%). As mentioned previously, in Portugal judges may not carry out any other duties, be they public or private, except for unpaid teaching or scientific research in the field of law. Another exception is the judges who are in service commission in different institutions such as the High Councils and Centre for Judicial Studies (the Portuguese institution responsible for both the initial and ongoing training of judges and public prosecutors, as well as other training initiatives at an international level).

With regard to their current main judicial post, most participants were first instance judges (n = 178, 74.6%), while 49 respondents were second instance judges (20.4%), and only 11 participants stated that they were supreme court judges (4.6%). Respondents could select more than one main judicial post, and one judge selected the option "Other" concurrently with the option "Judge of first instance", without specifying exactly what "other" would be (0.4%). Eleven judges indicated that they exercised other judicial posts other than the main judicial function specified (4.6%). The same number of respondents indicated that their work involved circuit courts (4.7%). It is important to note, as previously mentioned, that in Portugal there are no circuit courts. However, there are proximity units, which may be mistaken by circuit courts, as they are defined in the survey.³ Judges usually accumulate their main judicial function with proximity units, travelling to these units only when necessary.

³ Portugal, Lei n.º 62/2013, Lei da Organização do Sistema Judiciário – LOSJ, (Law no. 62/2013, Law on the Organisation of the Judicial System) from August 26 2013. Last amended by Law no. 77/2021, from November 23 2021. Available at: <https://diariodarepublica.pt/dr/legislacao-consolidada/lei/2013-34581275-52975975>.

Table 2. Professional Characteristics of Respondents

Professional Characteristics	n	%
Commenced working as judge in court (n = 238)		
Before 1995	56	23.5
1995-1999	35	14.7
2000-2004	45	18.9
2005-2009	20	8.4
2010-2014	34	14.3
2015-2018	24	10.1
2019-2022	24	10.1
Employed as full-time judge (n = 236)		
Yes	235	99.6
No	1	0.4
Current main judicial post (n = 238)*		
First instance judge	178	74.6
Second instance judge	49	20.4
Higher court judge	11	4.6
Other	1	0.4
Time employed in current judicial post (n = 238)		
Less than 1 year	16	6.7
1-5 years	56	23.5
6-10 years	34	14.3
11-15 years	41	17.2
16-20 years	40	16.8
21-25 years	33	13.9
26-30 years	16	6.7
Over 30 years	2	0.8
Additional judicial post (n = 237)		
No	226	95.4
Yes	11	4.6
Employment involves Circuit Courts (n = 234)		
No	223	95.3
Yes	11	4.7
Caseload (n = 235)		
Exclusively criminal law	44	18.7
Mainly criminal law	13	5.5
Exclusively civil law	85	36.2
Mainly civil law	10	4.3
A mix of criminal and civil law	23	9.8
Administrative matters	56	23.8
Other	4	1.7

*respondents could select more than one main judicial post

Although the nature of the respondents' caseload was variable, most respondents indicated that their work involves exclusively civil law (n = 85, 36.2%), followed by administrative matters (n = 56, 23.8%) and exclusively criminal law (n = 44, 18.7%).

Section 2: Judicial Resources and Digital Working

Q's 9 & 10. Please indicate whether you use the following when working as a judge AND Do you consider that your judicial colleagues, when working as a judge in the same court as you, use the following

Two hundred and fifty-eight (258) judges indicated the type of judicial resources they use in their work, as well as the resources they consider their fellow judges use as well. Figure 1 shows the reported use of judicial resources by the respondents. Figure 2 displays which judicial resources judges consider their colleagues use in their own work.

Figure 1. Use of Judicial Resources Among Respondents (n = 258)

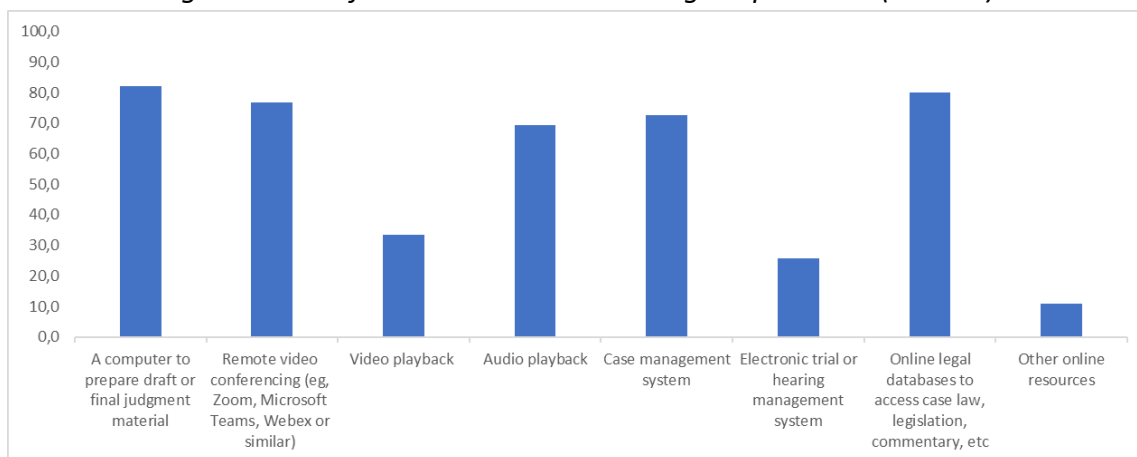
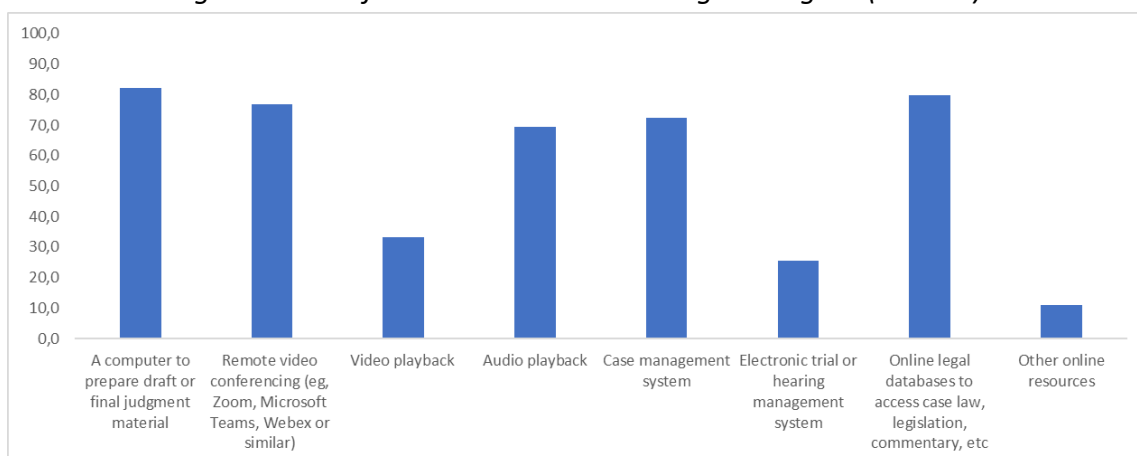


Figure 2. Use of Judicial Resources Among Colleagues (n = 258)



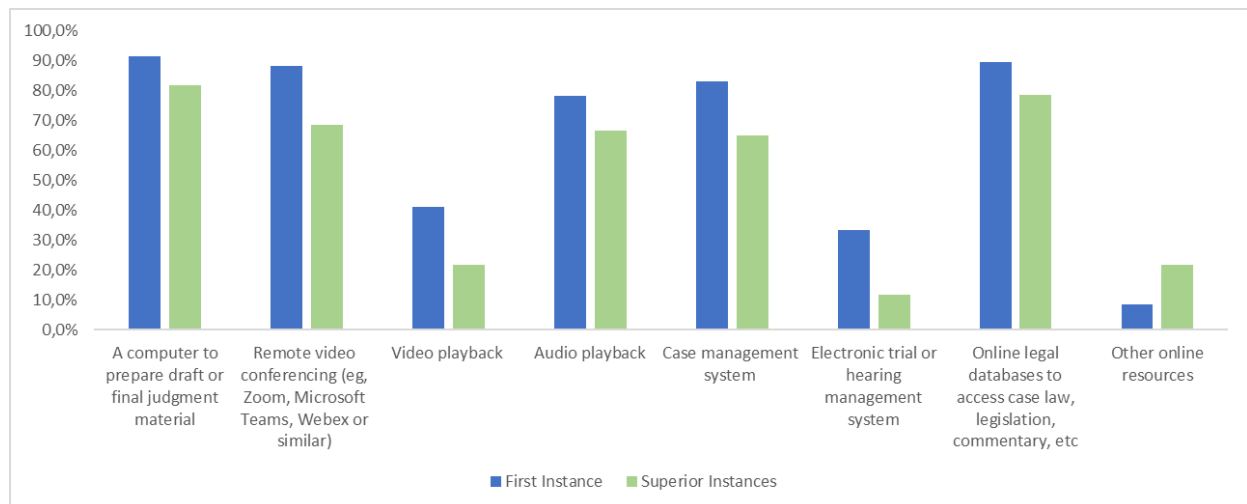
With regard to their own use of resources, the majority of respondents indicated that they utilize a computer to prepare a draft or final judgement material (n = 212, 82.2%), as well as online legal databases (n = 206, 79.8%), remote video conferencing software such as Zoom, Microsoft Teams, and Webex (n = 198, 76.7%), a case management system (n = 187, 72.5%), and audio playback (n = 179, 69.4%). Furthermore, about one third

of the respondents stated that they use video playback (n = 86, 33.3%), and a quarter employs an electronic judgement or audience management system (n = 66, 25.6%), while a smaller percentage mentions the use of other online resources (n = 28, 10.9%).

Very similar proportions are obtained when respondents consider the use of the same resources by their peers: the vast majority indicated that their colleagues would use a computer to prepare the project or final judgment material (n = 207, 80.2%), as well as online legal databases (n = 197, 76.4%), remote video conferencing software such as Zoom, Microsoft Teams, and Webex (n = 183, 70.9%), a case management system (n = 182, 70.5%), and audio playback (n = 166, 64.3%); similarly, almost a third of respondents reported that their colleagues would use video playback (n = 85, 32.9%) and smaller percentage assume the use of an electronic trial or hearing management system (n = 69, 26.7%), as well as other online resources (n = 14, 5.4%).

As we can see in Figure 3, observing the main differences between court instances regarding the use of Judicial Resources (n=238), the first instance courts make a more prevalent use of technology. Across all options available, the judges in the first instance courts reported a more frequent adoption of technology in their work. The difference was particularly high in the use of Electronic trials or hearing management systems, remote video conferencing (eg, Zoom, Microsoft Teams, Webex or similar) and Video playback. The only exception was the selection of other online resources, where the judges in the higher instances courts presented a larger percentage of its use (Figure 3).

Figure 3. Differences between instances regarding the use of Judicial Resources (n = 258)



Q 11. Please provide your assessment of the following resources available to you at the main court where you work:

Respondents were also asked to assess the resources available in the main court where they work. Each resource was rated as being ‘excellent’, ‘good’, ‘adequate’, ‘poor’, or ‘do not have’. Table 3 provides a summary of the respondents’ assessment of the resources.

Table 3. Judge Respondents’ Assessment of the Resources Available at the Main Court

Resource	Assessment of Resource									
	Excellent		Good		Adequate		Poor		Do Not Have	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>N</i>	%	<i>n</i>	%
Standard of IT equipment provided for you personally to use when working at court (<i>N</i> = 214)	17	7.9	97	45.3	73	34.1	27	12.6	0	0.0
Standard of IT equipment available to you for working remotely (<i>N</i> = 215)	16	7.4	92	42.8	78	36.3	29	7.55	0	0.0
Standard of IT equipment used in your trials or hearings (<i>N</i> = 206)	2	1.0	30	14.6	76	36.9	96	46.6	2	1.0
Internet access for you in your courtroom (<i>N</i> = 213)	16	7.5	63	29.6	80	37.6	52	24.4	2	0.9
Internet access for you when working remotely (<i>N</i> = 212)	17	8.0	52	24.5	52	24.5	25	11.8	66	31.1
IT support when working in your court building (<i>N</i> = 214)	12	5.6	46	21.5	84	39.3	69	32.2	3	1.4
IT support when working remotely (<i>N</i> = 217)	11	5.1	36	16.6	71	32.7	78	35.9	21	9.7

Most respondents rated the equipment provided for personal use and for remote working as positive (53.3% and 50.2% respectively considered Excellent or Good). However, respondents were less favourable in relation to the IT equipment used in their trials and hearings, with only 15.5% evaluating it positively (Excellent or Good). Regarding Internet access in the courtroom and when working remotely, the positive evaluation was only an option for respectively 37.1% and 32.5% (Excellent or Good). However, a significant number of respondents indicated that they “do not have” access to the Internet when working at a distance (31.1%). Regarding the IT support available to the judges when working in the court building or remotely, the

respondents also indicated a less satisfactory evaluation, with only 27.1% and 21.7% of positive assessments, respectively (Excellent or Good).

Q12. These questions ask about your access to different digital resources:

Respondents were further asked to rate their access to Wi-Fi in courtrooms (n = 202) and all other parts of the court building (n = 199), as well as to whom Wi-Fi is accessible in the courtroom (n = 100) and in the court building (n = 89). Figures 4 and 5 concern access to Wi-Fi in the courtroom.

Figure 4. Availability of Wi-Fi in courtrooms or hearing rooms (n = 202)

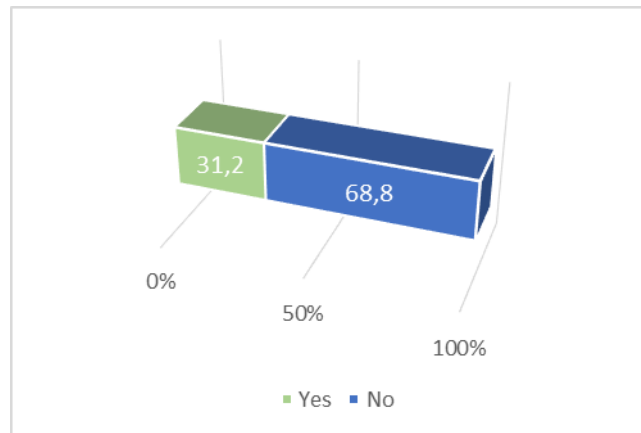
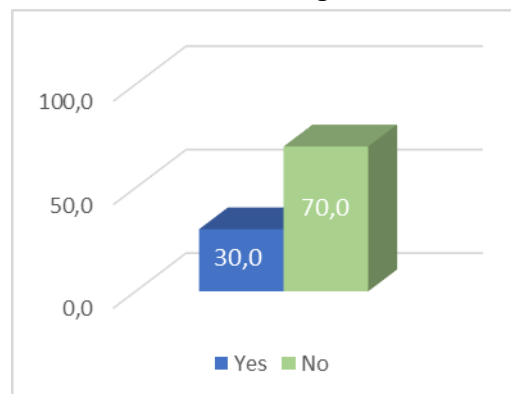


Figure 5. Availability of Wi-Fi in courtrooms or hearing rooms restricted to the judge's use (n = 100)



Regarding availability in the courtroom, only around one third of the respondents indicated that they have access to Wi-Fi in the courtrooms (n = 63, 31.2%). With regard to whom may access Wi-Fi in the courtrooms, the majority of respondents indicated that its use is not limited to judges (n = 70, 70.0%). Figures 5 and 6 are related to Wi-Fi accessibility in the other areas of the building.

Figure 6. Availability of Wi-Fi in all parts of the court building other than courtrooms or hearing rooms (n = 199)

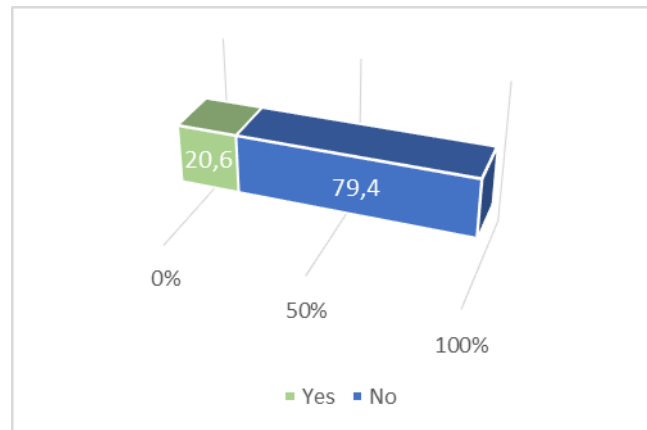
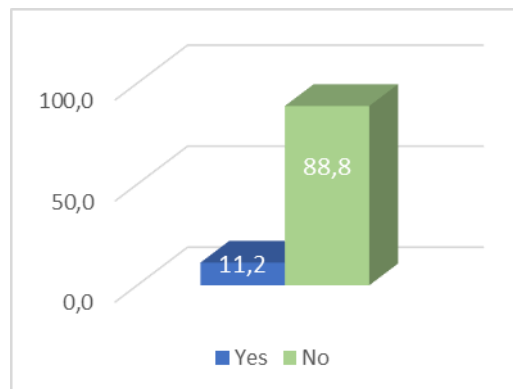


Figure 7. Wi-Fi in all parts of the court building other than courtrooms or hearing rooms available for both judges and the public (n = 89)



Only 41 respondents indicated that Wi-Fi access was available in all the other parts of the court building (20.6%). Regarding who can access Wi-Fi in those areas where it is available (n = 89), the majority reported that it was not available to both judges and the public (n = 79, 88.8%).

Q13. Please provide your assessment of the following:

Respondents rated the usability of the electronic case management system (n = 204), the availability of training on electronic case management (n = 205), the quality of such training (n = 206) and the quality of the internet available to judges in their court (N = 209). Table 4 summarises the respondents' assessment of the electronic case management system and the Internet in the court, where it can be highlighted the high percentages of Poor or Do Not Have in all of the items (from 26% to 49%)

Table 4. Judge Respondents' Assessment of the Electronic Case Management System and Internet at Court

Resource	Assessment of Resource									
	Excellent		Good		Adequate		Poor		Do Not Have	
	n	%	n	%	n	%	N	%	n	%
Usability of the electronic case management system (N = 204)	2	1.0	53	26.0	95	46.6	47	23.0	7	3,4
Availability of training on the electronic case management system (N = 205)	2	1.0	35	17.1	83	40,5	69	33.7	16	7,8
Quality of training on an electronic case management system (N = 206)	2	1.0	41	19.9	81	39,3	60	29.1	22	10,7
Quality of internet available for judges in your court (N = 209)	6	2.9	58	27.8	68	32,5	73	34.9	4	1,9

Q14-18. In the last five years have you participated in any online remote trials or hearings using video-conferencing technology

And

How well do you think that video-conferencing technology performs for the purpose of fully or partially remote trials or hearings

And

How well do you think fully or partially remote conferences, trials or hearings using video-conferencing technology support fair outcomes?

And

Which do you think is preferable?

Four questions on their experience of online distance trials, hearings or conferences with parties using video-conferencing technology were answered by respondents, summarised in Figures 8 and 9. Regarding the use of video-conferencing technology (n = 214), the majority of respondents indicated that they had already participated in online remote trials or hearings using such technology (n = 175, 81.8%). However, considering the instance court in which the respondents work (n = 175), this number rises to 86.7% if we consider only first instance judges, but drops to 65.3% if we only consider judges who work in superior instances. Superior instances usually only consider questions of law and not questions of fact (procedural rules), thus, the number of hearings that takes place in such courts is limited. Survey participants also rated the performance of video-conferencing technology in full or partial remote trials/hearings (n = 209). About one-sixth of the judges surveyed considered that the video-conferencing technology performed ‘very well’ or ‘well’ (n = 34, 16.7%). Most respondents, however, gave an ‘average’ assessment of video-conferencing technology (n = 119, 56.9%), and about a quarter of the respondents gave a negative evaluation of this technology (n = 55, 26.3%).

Figure 8. Respondents’ perception of how well video-conferencing technology performs for the purpose of fully or partially remote trials or hearings (n = 214)

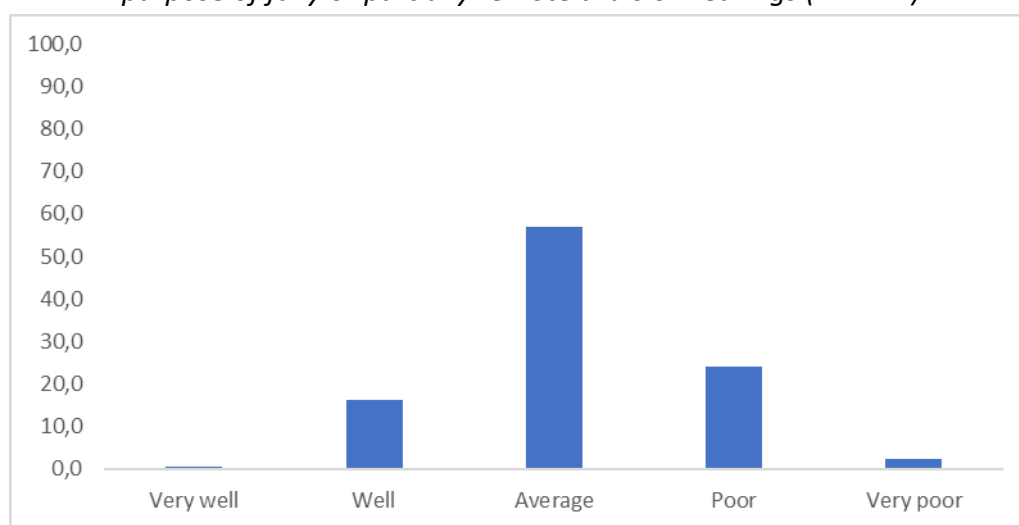
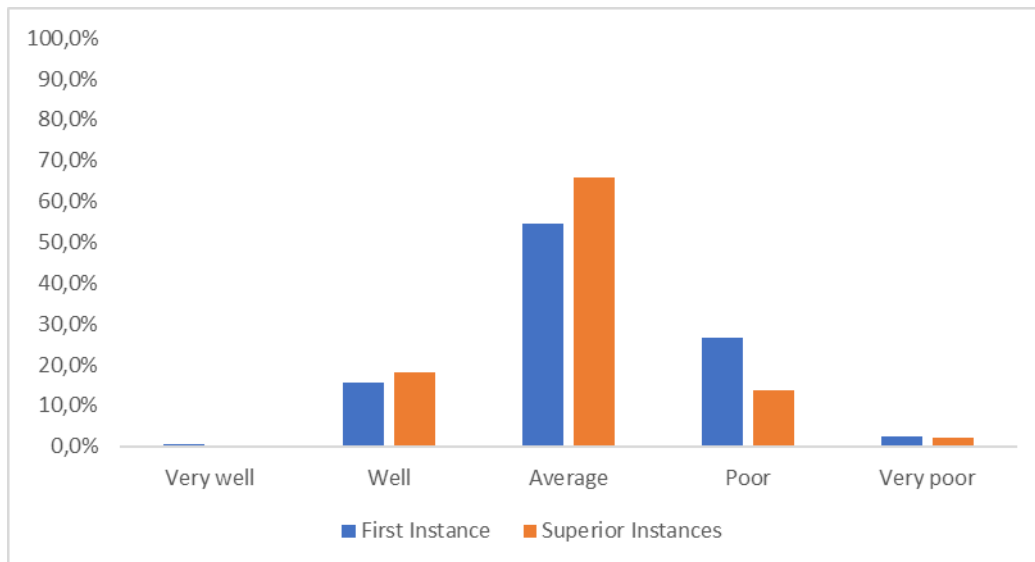


Figure 9 presents the respondents’ perception of how well video-conferencing technology performs for the purpose of fully or partially remote trials or hearings, considering the instance in which they work (n = 209). As we can see, judges from the superior instances seem to present a more favourable perception regarding the performance of technology for the purpose of fully or partially remote trials or hearings (18.2%), as opposed to those working in the first instance courts (16.4%).

Figure 9. Differences in respondents’ perception of how well video-conferencing technology performs for the purpose of fully or partially remote trials or hearings, considering their instance (n = 209)



Concerning how fully or partially remote conferences, trials or hearings using video-conferencing technology support fair outcomes (n = 210), about one-third of respondents indicated that video-conferencing technology would support them 'very well' or 'well' in remote trials, hearings, or conferences (n = 71, 33.8%). Again, the largest group of respondents indicated that video-conferencing technology would be "average" in supporting fair outcomes (n = 90, 42.9%), and about one-fifth of respondents felt that video-conferencing technology would have a negative impact on fair outcomes (n = 49, 23.3%), as shown below (Figure 10).

Figure 10. Respondents' perception of how well fully or partially remote conferences, trials or hearings using video-conferencing technology support fair outcomes (n = 210)

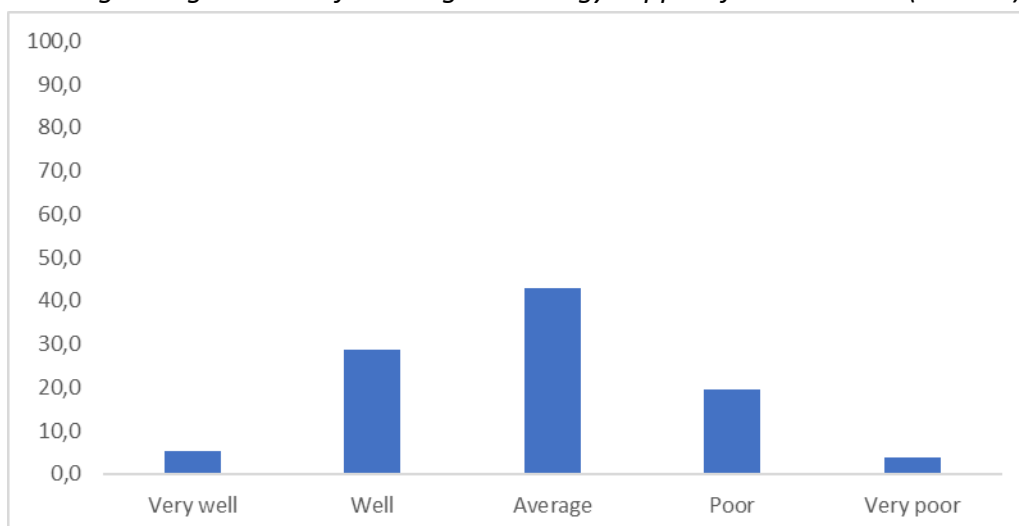
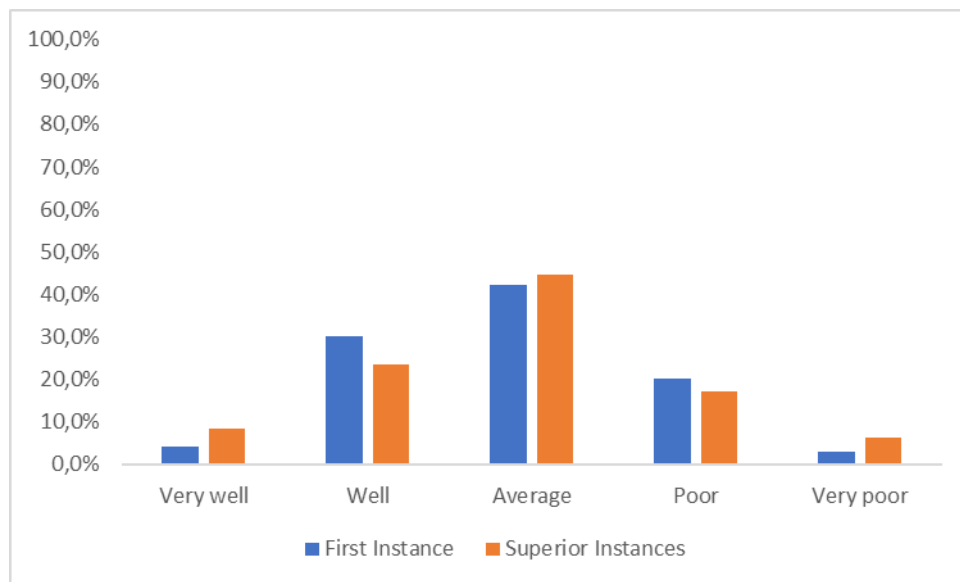


Figure 11 presents the same perceptions considering the instance court in which the respondents work (n = 210). In this case, respondents who work in the first instance courts present a more favourable view of how

fully or partially remote conferences, trials or hearings using video-conferencing technology may support fair outcomes for those involved (34.4%), against those who work in the superior instances (31.9%).

Figure 11. Respondents’ perception of how well fully or partially remote conferences, trials or hearings using video-conferencing technology support fair outcomes, considering their instance (n = 210)



Finally, when asked about their preference for in-person hearings, online hearings using video-conferencing technology, or a mixture of both (n = 211), respondents preferred in-person hearings (n = 161, 76.3%). Second place was reserved for a mixture of in-person and online hearings (n = 48, 22.7%), and only two respondents indicated their preference for online hearings using video-conferencing technology (n = 2, 0.9%). If we consider the instance in which respondents work (n = 161), the judges who work in the first instance courts present a more favourable view (78.7%) than those working in the superior instance courts (68.1%).

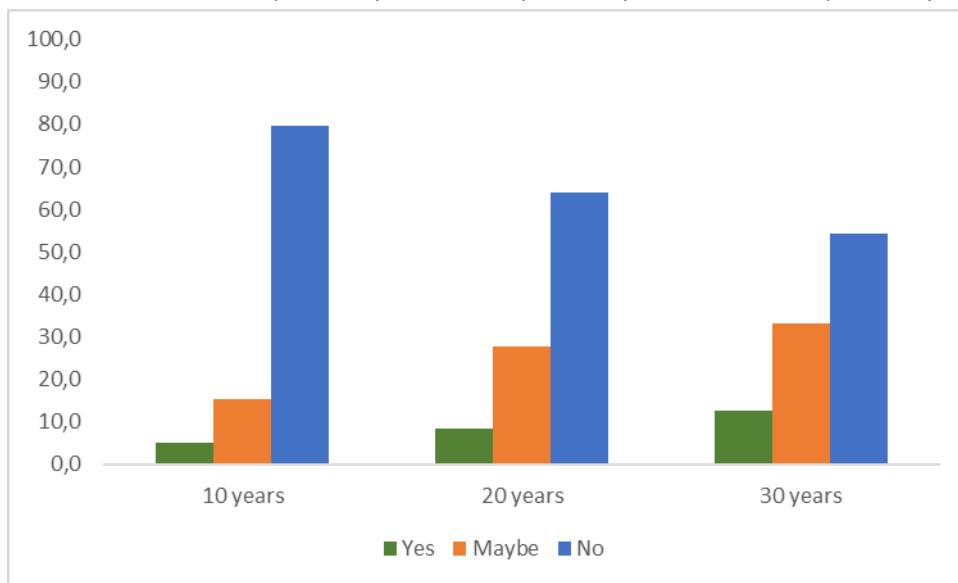
Section 3: The Judiciary and Technology

Q19-Q20. Do you consider that it is possible some judges might be replaced by technology in the next 10, 20 or 30 years:

Respondents were asked to reflect on the possibility that judges might be replaced by technology in the next 10 years, 20 years, and 30 years. As shown in Figure 12, the percentage of respondents who endorsed this

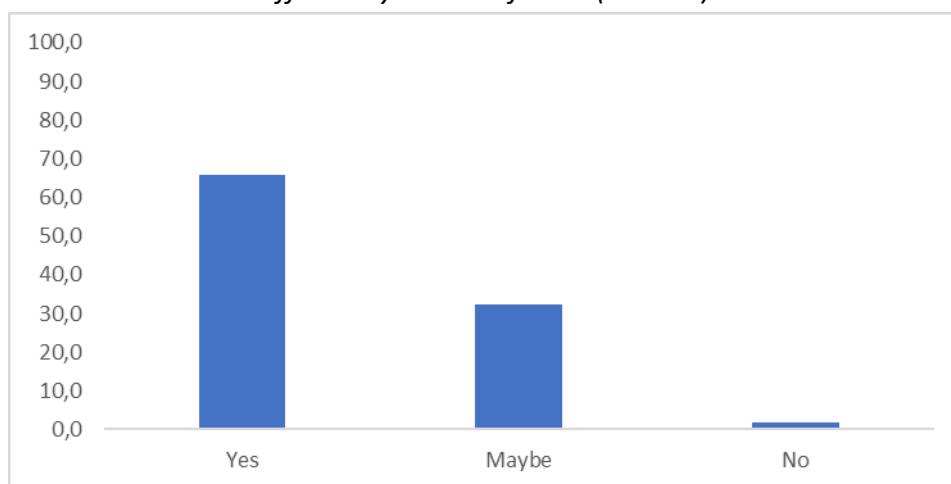
notion increases as the different time periods advance (from 10 to 30 years). However, for all the time periods, the majority of respondents does not endorse the notion that judges will be replaced by technology.

Figure 12. Percentage of respondents that endorsed that judges might be replaced by technology in the next 10 Years (n = 201), 20 Years (n = 181), and 30 Years (n = 184)



With regard to the possibility of a more efficient work (n = 211), most respondents consider that technology will allow them to conduct their work more efficiently in the future (n = 139, 65.9%), while almost a third considers it a possibility (n = 68, 32.2%), and only a very small percentage does not subscribe to the idea that technology will lead to more efficient work (n = 4, 1.9%), as indicated in Figure 10.

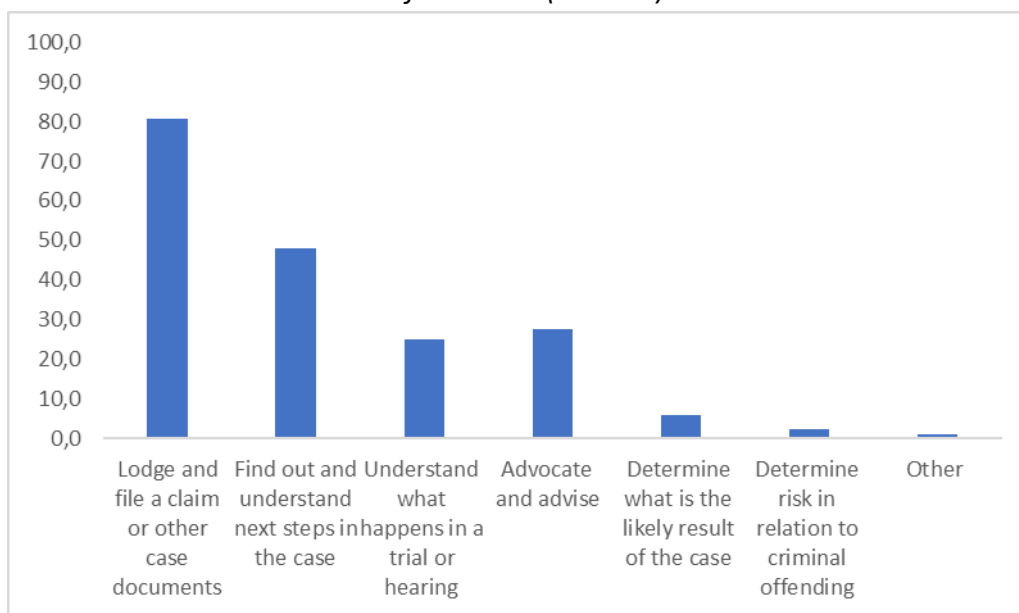
Figure 13. Percentage of respondents that consider that technology will enable them to work more effectively into the future (n = 211)



Q21-23. To the best of your knowledge, do the parties (lawyers and/or litigants) in matters before you use technology to (tick all that apply):

Judges were asked to indicate if legal parties (lawyers and/or litigants) in matters held before them used technology and in which cases would they do so ($n = 258$), as shown in Figure 14. Respondents indicated that legal parties often used technology for lodging and filing a claim or other case documents ($n = 208$, 80.6%), and, to a lesser extent, to find out and understand the next steps in the case ($n = 124$, 48.1%), followed by the option to advocate and advise ($n = 71$, 27.5%), and to understand what happens in a trial or hearing ($n = 65$, 25.2%). Respondents consider that legal parties use less the technology to determine what is the likely result of the case ($n = 15$, 5.8%) or determine the risk in relation to criminal offending ($n = 6$, 2.3%), with only a small fraction of respondents indicating other possibilities ($n = 3$, 1.2%).

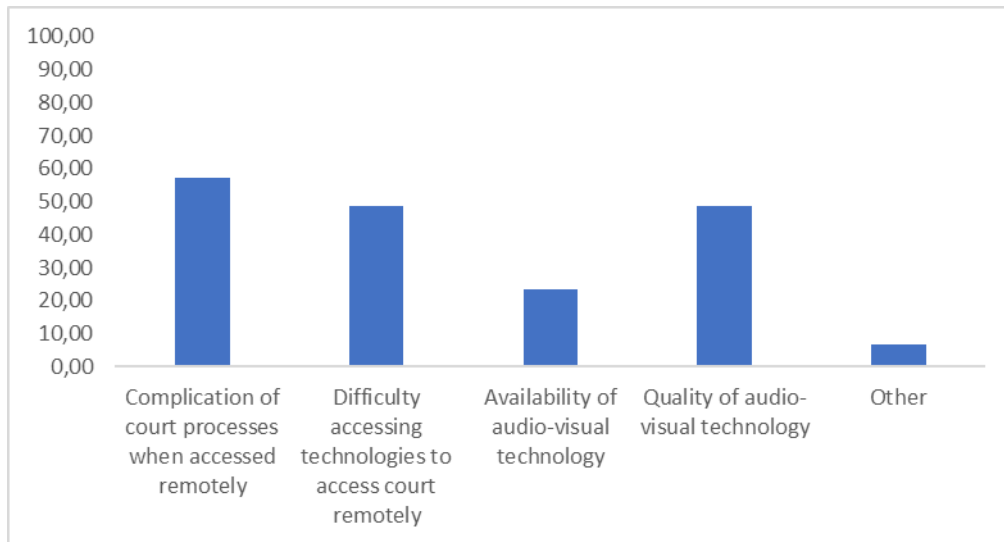
Figure 14. Respondents' Perceptions about What Technology Legal Parties Use in Matters Held Before Them (N = 258)



In addition, the judges also indicated whether, to their knowledge, legal parties (lawyers and/or litigants) experienced difficulties in using remote services provided by their court ($n = 205$). About half of the respondents indicated that legal parties have difficulties in using the remote services provided by the court ($n = 103$, 50.2%). When asked what would the difficulties experienced might be ($n = 103$), the most frequent were related to the complications of court processes when accessed remotely ($n=59$, 57.3%), followed by the quality of audio-visual technology ($n = 50$, 48.5%), and the difficulty in obtaining technological remote access to the court ($n = 50$, 48.5%). Finally, the availability of audio-visual technology was the least mentioned

difficulty (n = 24, 23.3%), while only seven respondents mentioned other possibilities (6.8%), as it can be seen in Figure 15.

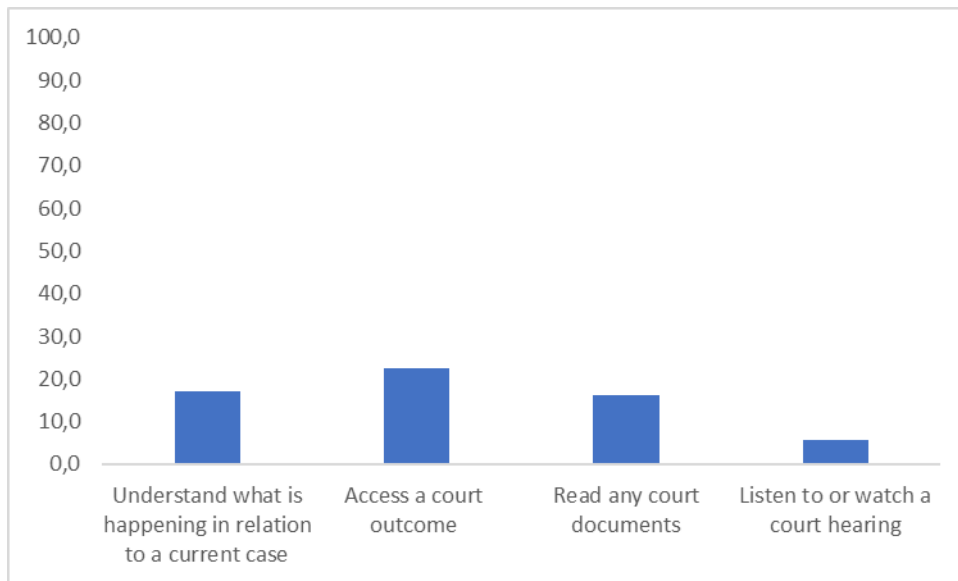
Figure 15. Respondents' perceptions about what difficulties using remote services provided by their court may be related to (N = 205)



Q24. Do you think that the general public uses technology to (tick all that apply):

Respondents were asked to specify what, in their opinion, the general public uses technology for (n = 258). As shown in Figure 16, 58 respondents indicated that the general public uses technology to access an outcome of a court case (22.5%), 44 respondents indicated that they use it to understand what is happening in relation to a court case (17.1%), 42 indicated that they use it to read any court documents (16.3%), and only 15 respondents indicated that the general public uses technology to listen to or watch a court hearing (5.8%).

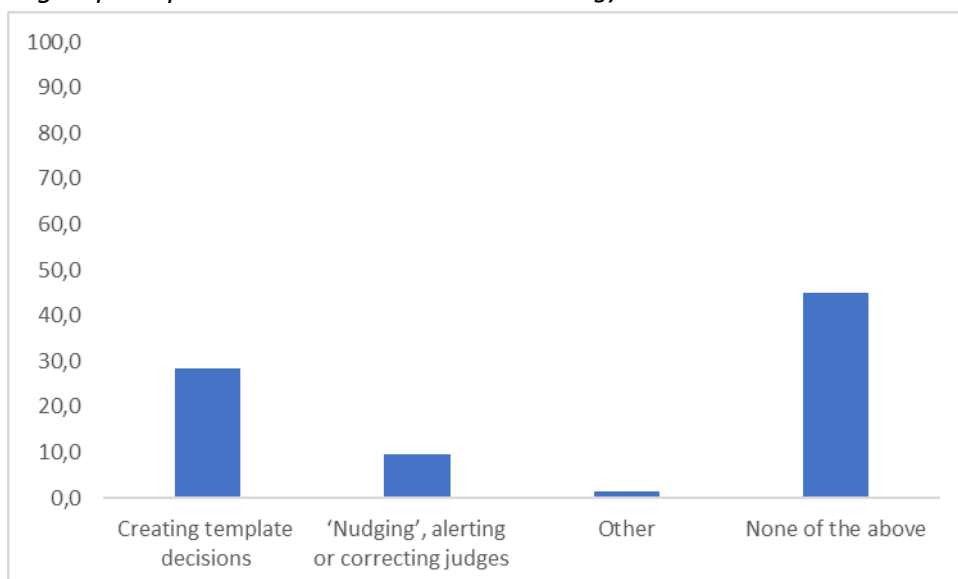
Figure 16. Respondents' perceptions about what the general public uses technology to (N = 258)



Q25. Does any technology used in your court assist with any of the following (tick all that apply):

Respondents were questioned about whether the technology used in their court is utilized to assist creating template decisions, ‘nudging’, alerting or correcting judges, for neither, or for some other purposes (n = 258). Altogether, as Figure 17 indicates, 73 respondents specified that technology in the court can be used to create template decisions (28.3%), while 25 respondents indicated that it may be used to ‘nudge’, alert or correct judges (9.7%). Only four respondents indicated that technology can be used in court for other purposes (1.6%). The majority of the respondents, however, indicated that they do not use for none of these options (n= 45, 45%).

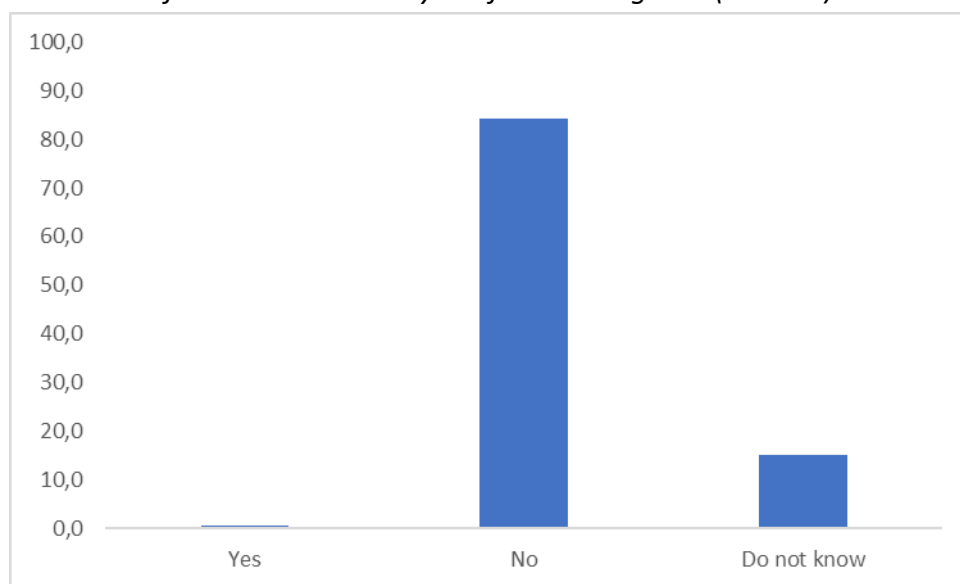
Figure 17. Judges’ perceptions about whether the technology used in their court is utilized to (N = 258)



Q26. To the best of your knowledge, do some decisions that you make involve a review of a decision made by a form of Artificial Intelligence (AI)?

As shown in Figure 18, the majority of respondents (n = 173, 84.3%) indicated that the decisions they make do not involve reviewing a decision made by a form of Artificial Intelligence (AI). Only 1 (0.5%) respondent indicated that their decisions involved reviewing decisions made by AI. Thirty-one respondents, however, indicated that they 'did not know' whether their decisions involved reviewing decisions made by AI (15.2%).

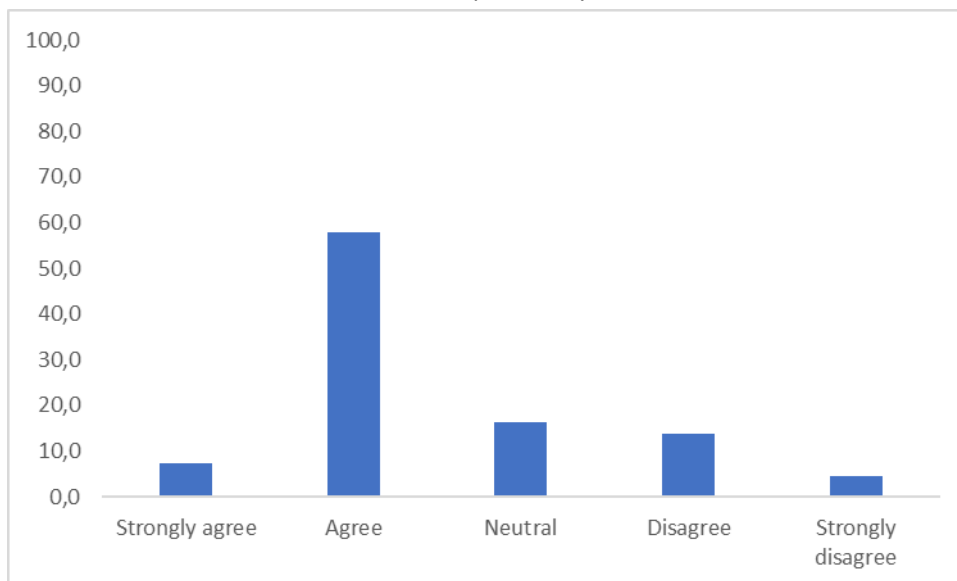
Figure 18. Respondents that Endorsed or Did Not Endorse that their Legal Decisions Involve a Review of a Decision Made by Artificial Intelligence (N = 204)



Q27. Do you have access to legal databases (case or legislative databases or commentary on recent legal developments)? (3_27).... In your court building When working remotely
Q28. If yes, to what extent do you agree with this statement: “the legal databases I have are appropriate for my needs” (3_28)

Regarding access to legal databases, of the 201 respondents who answered the question, a large majority indicated that they are able to access them in their court building (n = 188, 93.5%) and when working remotely (n = 190, 94.5%). As shown in Figure 19, when respondents were asked whether the legal databases were appropriate for their needs, the majority indicated ('strongly agreed' or 'agreed') that they were suitable (n = 132, 65.3%). Thirty-three respondents indicated a neutral position (16.3%), while thirty-seven reported that the legal databases were inappropriate at meeting their needs (18.3%).

Figure 19. Respondents indication of the appropriateness of the legal databases available for their needs (N = 202)

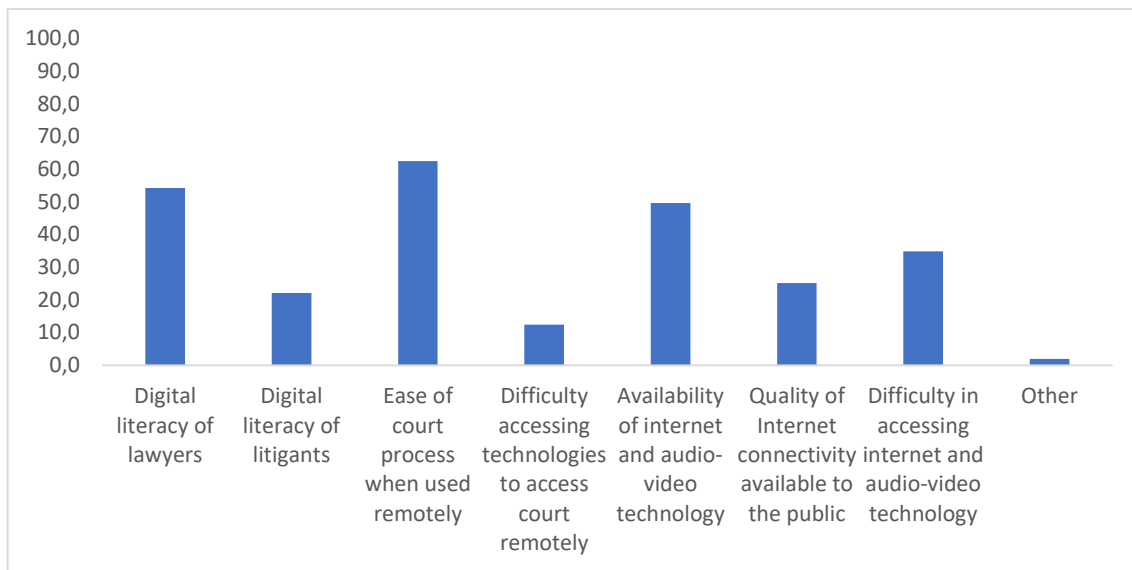


Q29. What impact has the increased use of digital technology in your judicial system had on access to justice?

Q30. In answering the previous question, which of these do you consider as important factors to your answer (tick all that apply):

Of the 205 respondents who answered this question, 185 indicated that the increasing use of digital technology in the judicial system has had a positive impact on access to justice (90.2%). Only 5 respondents reported a negative effect of technology on access to justice (2.4%), while 15 indicated that it had no impact (7.3%). In answering this question, respondents were also asked to consider the important factors that influenced their response. Figure 20 presents such factors.

Figure 20. Factors influencing perceptions about what impact the increased use of digital technology in the judicial system has had on access to justice (N = 258)



Considering those respondents who indicated that the increasing use of digital technology in the judicial system has had a positive impact on access to justice (n = 185), the majority indicated ease of court process when used remotely (n = 153, 82.7%), digital literacy of lawyers (n = 135, 73.0%), and availability of internet and audio-video technology (n= 124, 67,0%). As factors that may conditioning the access to justice, almost half of the respondents selected difficulty in accessing internet and audio-video technology (n = 88, 47.6%), while 63 respondents indicated quality of Internet connectivity available to the public (34.1%) and 51 respondents selected digital literacy of litigants (27,6%). Only 2 respondents selected the option “others” (1.1%). Regarding the 5 respondents who reported a negative effect of technology on access to justice, 2 indicated ease of court process when used remotely and availability of internet and audio-video technology as important factors (40%), while the options digital literacy of lawyers, digital literacy of litigants, difficulty accessing technologies to access court remotely, and quality of Internet connectivity available to the public only gathered one selection (20%). While the difficulty in accessing internet and audio-video technology was not selected, the option “others” was the most indicated (n = 3, 60%). For respondents who indicated that technology had no impact on access to justice (n = 15), the factor ease of court process when used remotely was the most selected (n = 6, 40%), followed by digital literacy of litigants (n = 5, 33.3%). Four respondents indicated digital literacy of lawyers (26.7%) and 2 respondents considered difficulty accessing technologies to access court remotely, availability of internet and audio-video technology, and difficulty in accessing internet and audio-video technology as important factors (13.3%). Lastly, one judge also mentioned the quality of Internet connectivity available to the public (6.7%). The option “others” was not selected.

Q31. Do you think that your court's current use of technology in the court process is the best use of that technology? (Choose Yes or No)

Q32. If you selected No, to what extent do you agree with the following statement:

Respondents were further asked whether the current use of technology in the judicial process by their court was the best use of such technology (n = 201), with the majority disagreeing with such a statement (n = 146, 72.6%). For those respondents who disagreed with the statement, a further question asked a) whether the existing judicial process could be more efficient with a better use of the technology (n = 143), a statement with which an overwhelming majority of respondents agreed (n = 130, 90.9%), and b) whether the existing judicial process could be transformed to reflect the better use of technology (n = 139), which also obtained a positive response from the majority of respondents (n = 85, 61.2%), as shown in Figures 21 and 22.

Figure 21. Perceptions if the existing judicial process could be more efficient with the better use of the technology posed the question (n = 143)

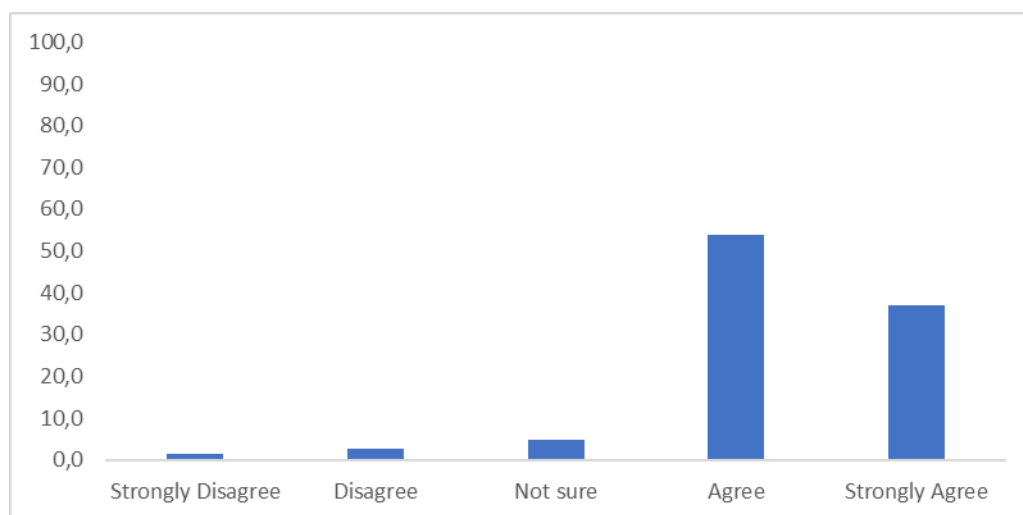
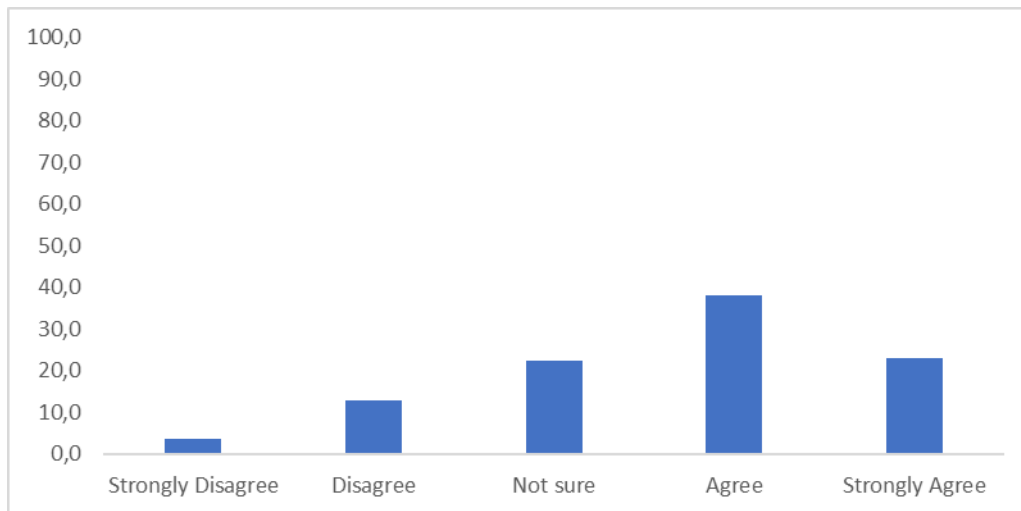


Figure 22. Perceptions whether the existing judicial process could be transformed to reflect the better use of technology (n = 139)



Section 4: Working Conditions

Q33. Please provide an evaluation of the adequacy of the following at your court building in relation to working with technology: (4_33)

Q34. Please provide an evaluation of the adequacy of the following when working at home in relation to working with technology: (4_34)

Judges were also asked to make an assessment on the adequacy of the facilities and working environment in their court buildings and when working at home in relation to working with technology. Such assessments are summarised in Table 5.

Across the various facilities and the work environment, both at the court building and when working from home, respondents' evaluations primarily ranged from 'adequate' and 'poor'. The amount of administrative support, the space to meet and interact with other judges and security were the aspects with the worst evaluation. Respondents less frequently gave the facilities/work environment an 'excellent' or 'good' evaluation. However, respondents gave more favourable evaluations to the 'maintenance of the building' and 'physical quality' of their working space.

Table 5. Evaluation of the adequacy of the facilities and work environment provided at the court building and when working from home in relation to working with Technology

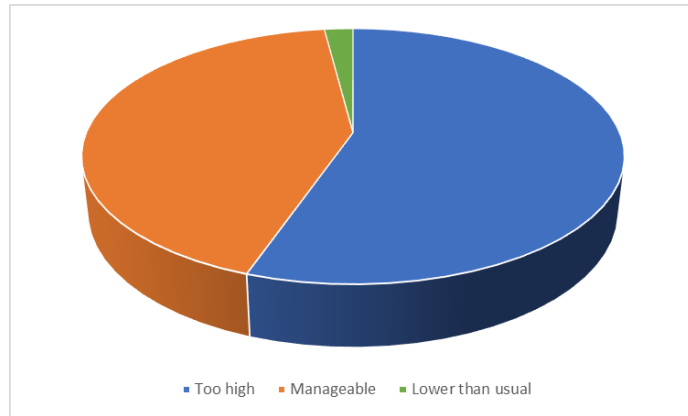
Evaluation			
Excellent	Good	Adequate	Poor

Facility and Work Environment	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
At court building								
Amount of administrative support (N = 198)	8	4.0	46	23.2	72	36.4	72	36.4
Quality of administrative support (N = 198)	13	6.6	55	27.8	82	41.4	48	24.2
Morale of court staff (N = 196)	8	4.1	54	27.6	71	36.2	63	32.1
Physical quality of the building (N = 196)	9	4.6	61	31.1	76	38.8	50	25.5
Maintenance of the building (N = 196)	9	4.6	53	27.0	80	40.8	54	27.6
Physical quality of your personal workspace (N = 195)	17	8.7	62	31.8	83	42.6	33	16.9
Space to meet and interact with other judges (N = 194)	8	4.1	39	20.1	58	29.9	89	45.9
Security at your court (N = 196)	8	4.1	48	24.5	65	33.2	75	38.3
Working from home								
Amount of administrative support (N = 194)	8	4.7	54	28.1	74	38.5	55	28.6
Quality of administrative support (N = 194)	9	4.6	45	23.2	75	38.7	65	33.5
Morale of court staff (N = 192)	9	4.7	54	28.1	74	38.5	55	28.6
Physical quality of your remote working space (N = 185)	43	23.2	80	43.2	42	22.7	20	10.8
Physical quality of your personal workspace (n= 184)	49	26.6	71	38.6	49	26.6	15	8.2
Space to meet and interact with other judges if needed (N = 170)	6	3.5	21	12.4	47	27.6	96	56.5
Security at your remote working space (N = 182)	44	24.2	55	30.2	50	30.2	28	15.4

Q35. How would you assess your judicial workload over the last 12 months?

With respect to the assessment of their judicial workload (n = 197), more than half of the surveyed judges indicated that their judicial workload in the last 12 months was "too high" (n = 109, 55.3%), while 84 respondents assessed their workload in the last 12 months as "manageable" (42.6%), and only 4 respondents assessed their workload as "lower than usual" (2.0%).

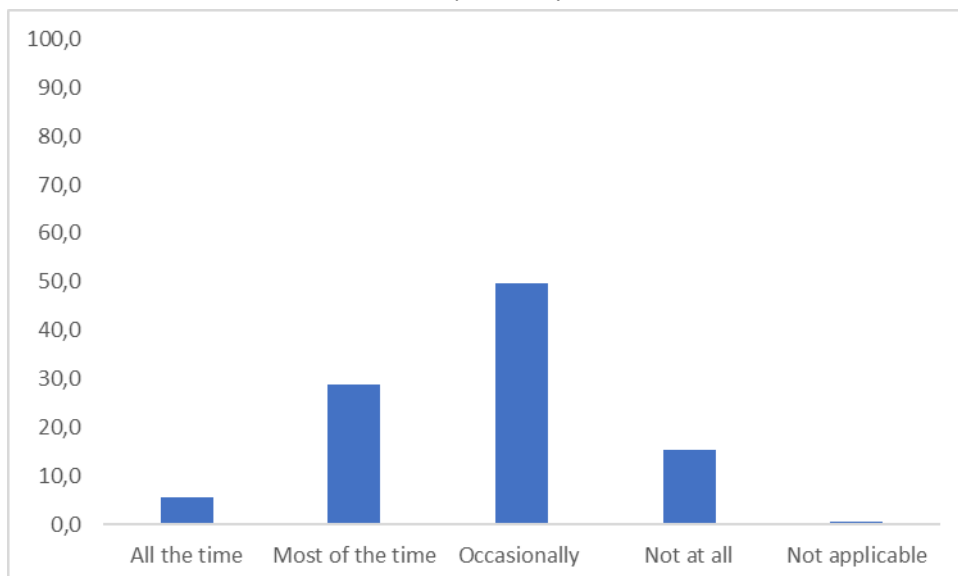
Figure 23. Assessment of the judicial workload over the last 12 months (n = 197)



Q36. During the COVID-19 emergency, if you had a lockdown period, how often did you go into work at your court building during any lockdown period?

Respondents were also asked to indicate how often they worked in the court building during the period of confinement at the height of the COVID-19 emergency. As shown in Figure 24, one-third of respondents indicated that they went to the court building all the time or most of the time (n = 68, 34.5%). About half of the respondents went to the court building occasionally (n = 98, 49.7%), while thirty respondents never went to the court building (15.2%). For one respondent this was not an applicable question (0.5%).

Figure 24. Frequency of work in the court building during the period of confinement due to COVID-19 (n = 197)

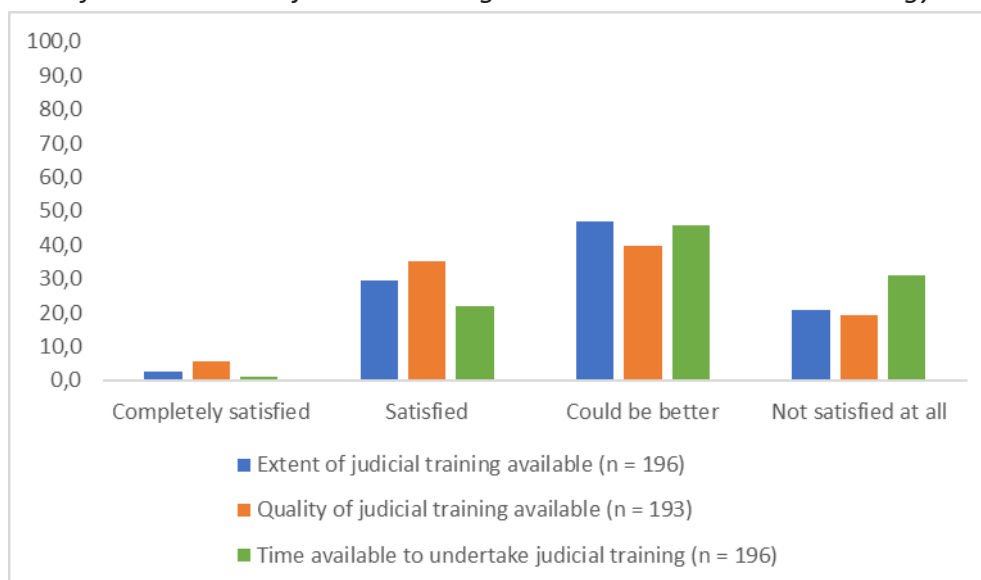


Section 5: Training and Personal Development

Q37. To what extent are you satisfied with the following aspects of judicial training related to technology used in your work:

Respondents were asked whether they were satisfied with the judicial training they received in relation to the technology used in their work. They rated their level of satisfaction with the extent judicial training available (n = 196), the quality of the judicial training available (n = 193), and the time available to undertake judicial training (n = 196). As Figure 25 shows, almost one third of the respondents are completely satisfied or satisfied with the extent of judicial training available (n = 63, 32.1%), while a larger percentage considers it could be better (n = 92, 46.9%), and around one fifth are not satisfied at all (n = 41, 20.9%). With regard to the quality of judicial training available, an even higher percentage is completely satisfied or satisfied (n = 79, 40.9%), while a similar number of judges indicated that it could be better (n = 77, 39.9%) and, once again, about one fifth of the respondents indicated dissatisfaction (n = 37, 19.2%). In what concerns the time available to carry out that training, the level of satisfaction decreases among the respondents, with the positive perception having a lower adherence (n = 45, 23%), while a large part states that it could be better (n = 90, 45.9%), and a third of the respondents is not satisfied at all (n = 61, 31.1%).

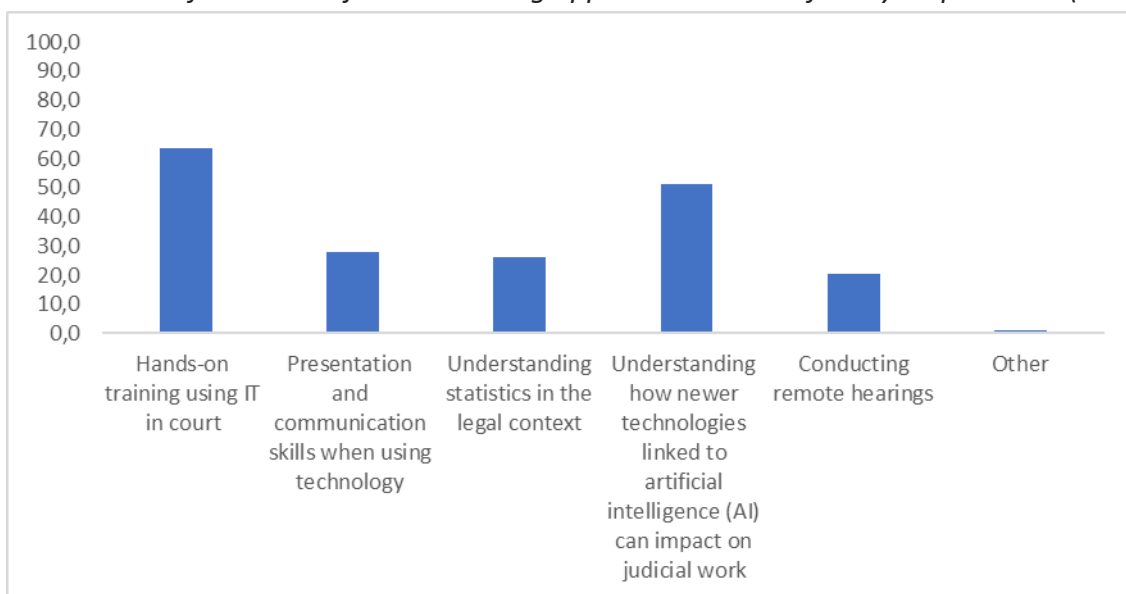
Figure 25. Satisfaction with the judicial training received in relation to technology used for work



Q38. In which, if any, of the following areas would you welcome new judicial training opportunities?

Figure 26 shows that respondents indicated areas in which they would like to have new judicial training opportunities (n = 258). While respondents most frequently indicated that they would like to receive hands-on training using IT in court (n = 164, 63.6%), they also expressed a clear interest in receiving further training in understanding how newer technologies linked to artificial intelligence (AI) can impact on judicial work (n = 132, 51.2%). Presentation and communication skills, when using technology and understanding statistics in the legal context, gained similar acceptance (n = 72, 27.9%, and n = 98, 26.4%, respectively), and training for conducting remote hearings a slightly smaller percentage (n = 53, 20.5%). Three participants indicated "other" areas of need for additional judicial training (1.2%), without specifying any subject.

Figure 26. Areas of additional judicial training opportunities identified by respondents (n = 258)

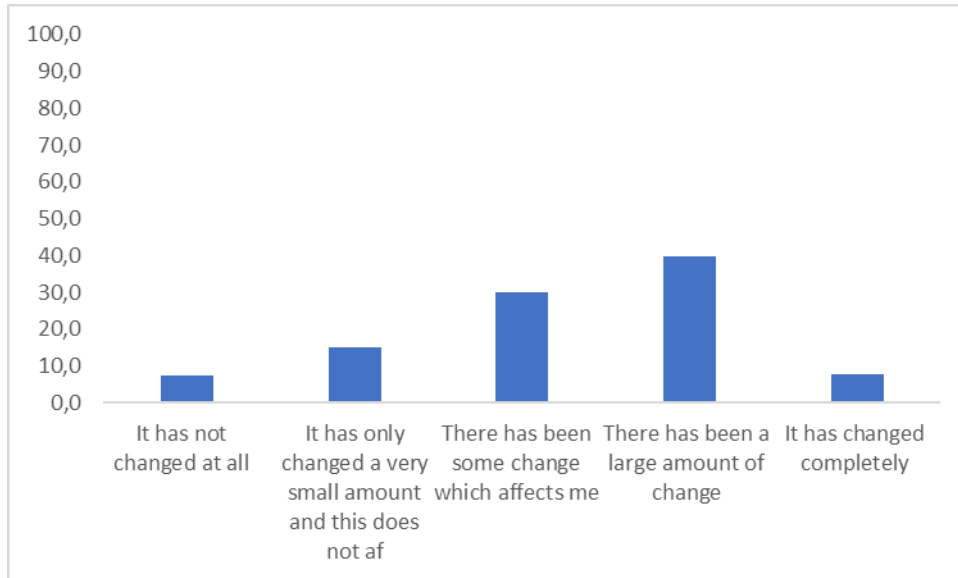


Section 6: Change in the Judiciary

Q39. To what extent do you feel that your work as a judge has changed since you were first appointed as a judge?

Respondents were questioned to what extent their work as a judge has changed since their first appointment. Of the 191 respondents who answered this question, the majority indicated that it had changed completely or that there had been a large amount of change (n = 91, 47.6%), while 57 respondents indicated that there had been some change (29.8%), and approximately one-fifth of the judges considered that it had changed only a very small amount or no change at all (n = 43, 22.5%), as illustrated in Figure 27.

Figure 27. Views about the extent to which work has changed since first being appointed as a judge (N = 191)



Q40. The following statements explore your view of changes in your work as a judge:

Respondents were presented with seven statements that explored their perceptions of change in their work as a judge. The respondents' level of support for each statement is presented in Table 6.

Table 6. Respondents' perceptions of changes in judicial work

Statement	Response									
	Strongly disagree		Disagree		Not sure		Agree		Strongly agree	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
The judiciary was managing change well before the COVID-19 emergency (N = 188)	5	2.7	37	19.7	69	36.7	74	39.4	3	1.6
Too much change has been imposed on the judiciary in recent years (N = 187)	2	1.1	43	23.0	39	20.9	82	43.9	21	11.2
More change is still needed in the judiciary (N = 186)	5	1.9	23	12.4	45	24.2	94	50.5	19	10.2
The amount of change in recent years has brought judges to breaking point (N = 186)	8	18.18	27	61.36	7	15.91	2	4.55	0	0
The judiciary needs to have control over policy changes that affect judges (N = 184)	5	2.7	21	11.4	33	17.9	88	47.8	37	20.1
Despite any reservations I may have about changes in the judiciary, I still enjoy my work as a judge (N = 184)	3	1.6	4	2.2	12	6.5	92	50.0	73	39.7

Some of the changes as a result of the COVID-19 emergency will remain. For example, digitised filing and video or telephone hearings (N = 187)

10 5.3 16 8.6 31 16.6 84 44.9 46 24.6

As it can be seen in Table 6, seventy-seven respondents indicated that the judiciary was managing change well before the COVID-19 emergency (41%), while sixty-nine participants were undecided (36.7%). An opposing position was indicated by 42 judges (22.3%). Regarding the amount of changes imposed in recent years, the majority of respondents indicated that there were too many (n = 103, 55.1%), forty-three judges held a contrary opinion (24.1%), and thirty-nine had neither a positive nor a negative opinion (20.9%). Notwithstanding, the majority of judges indicated that more changes are still needed in the judicial system (n= 113, 60.8%), and only 29 respondents indicated the opposite (15.1%), while 45 did not express a positive or negative opinion (24.2%). Faced with the statement “the amount of change in recent years has brought judges to breaking point”, eighty-seven respondents agreed (46.8%), while twenty-six stated the opposite position (24.2%). Fifty-four respondents chose a neutral position towards that statement (29%). Agreement with the statement “the judiciary needs to have control over policy changes that affect judges” was expressed by one hundred and twenty-five judges (67.9%) and disagreement by only twenty-six respondents (14.1%), with thirty-three judges expressing neither a favourable nor a dissenting position (17.9%). The vast majority of judges expressed their agreement with the statement “despite any reservations I may have about changes in the judiciary, I still enjoy my work” (n = 165, 89.7%), while only seven judges stated otherwise (3.8%). Considering the possibility that some of the changes resulting from the emergence of COVID-19 would remain (e.g., digitised filing and video or telephone hearings), one hundred and thirty-three participants agreed with the statement (69.5%), with only twenty-six judges disagreeing with it (13.9%), while thirty-one respondents expressed their opinion neither positively nor negatively (16.6%).

Q41. How concerned are you by the following changes in the justice system? (Answers optional)

Judges were also asked to indicate their level of concern regarding other changes in the justice system by agreeing with the statements listed in Table 7.

Table 7. Respondents' level of concern with changes in the justice system

Response

Statement	Not concerned at all		Only slightly concerned		Not sure		Somewhat concerned		Extremely concerned	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
An increase in people who do not have legal support or representation (N = 179)	19	10.6	33	18.4	28	15.6	78	43.6	21	11.7
Technological change (N = 177)	56	31.6	44	24.9	30	16.9	42	23.7	5	2.8
Fiscal constraints such as reduced budgets for courts (N = 178)	3	1.7	30	16.9	6	3.4	71	39.9	68	38.2
Loss of respect for the judiciary by government (N = 181)	4	2.2	21	11.6	6	3.3	59	32.6	91	50.3
Reduction in face-to-face hearings (N = 179)	32	17.9	34	19.0	25	14.0	57	31.8	31	17.3
Loss of judicial independence (N = 182)	13	7.1	21	11.5	6	3.3	55	30.2	87	47.8

The majority of judges indicated being extremely or somewhat concerned with the increase in the number of people who have no legal support or representation ($n = 99, 55.3\%$), while no concern or a slight concern gathered a lower membership ($n = 52, 29.1\%$). A neutral position was taken by 28 judges (15.6%). With regard to technological change, forty-seven judges expressed serious or somewhat serious concern (26.6%), while the majority of respondents expressed no or only slight concern ($n = 44, 56.5\%$), and thirty respondents expressed a rather neutral position (16.9%). One hundred and thirty-nine judges expressed significant concern regarding budgetary constraints, such as the reduction of court budgets (78.1%), with only thirty-three judges expressing slight or no concern (18.5%) and six respondents indicated having neither a positive nor a negative position on the statement (3.4%). One hundred and fifty judges indicated that they were extremely or somewhat concerned about the government's loss of respect for the judiciary (82.9%), while twenty-five expressed only minor or no concern (13.8%), with six respondents indicating that they were uncertain about the statement (3.3%). Eighty-eight judges expressed being extremely or somewhat concerned about the reduction in face-to-face hearings (49.2%), while sixty-six showed only a small concern or no concern at all (36.9%) and twenty-five judges took neither a negative nor a positive position regarding the statement (14.0%). With regard to the loss of judicial independence, the vast majority of judges indicated that they were extremely or somewhat concerned ($n = 142, 78.0\%$), and thirty-four showed no or only a small concern (18.7%). A neutral position was taken by only six respondents (3.3%).

Section 7: Being a Member of the Judiciary

Q42. As a judge, to what extent do you feel valued by the following groups?

The respondents were asked to indicate to what extent they consider that the work they perform as judges is valued by different societal groups. As shown in Table 8, judges expressed the perception that their work was regarded positively mainly by judicial colleagues in their court (87.2%), by other colleagues (77.3%), and by court staff (75%). These groups are followed by members of the legal profession (lawyers, barristers or solicitors) (54.4%) and the parties in cases that appear before them (46.1%). On the other hand, in the remaining groups, the predominant perception indicated is mostly negative: whether among the public (55.6%), by the government (70.4%) and especially by the media (81%).

Table 8. Perceptions about the value of their work as judges by societal groups

Group	Response									
	Greatly valued		Generally valued		Not sure		Generally not valued		Not valued at all	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Public (N = 180)	2	1.1	54	30.0	24	13.3	76	42.2	24	13.3
Government (N = 179)	30	16.8	23	12.8	95	53.1	31	17.3	31	17.3
Members of the legal profession (N = 180)	6	3.3	92	51.1	40	22.2	36	20.0	6	3.3
Parties in cases that appear before respondent (N = 178)	2	1.1	80	44.9	46	25.8	41	23.0	9	5.1
Court staff (N = 180)	27	15.0	108	60.0	25	13.9	16	8.9	4	2.2
Media (N = 179)	2	4.44	12	26.67	17	37.78	12	26.67	2	4.44
Judicial colleagues at respondent's court (N = 45)	1	0.6	7	3.9	26	14.5	70	39.1	75	41.9
Senior Judges not in respondent's court (N = 45)	47	26.1	110	61.1	17	9.4	2	1.1	4	2.2

Section 8: Kessler 10 Survey

In the last section of the survey, the judges were queried with demographic questions relating to gender, age and educational background, as well as to the Kessler Psychological Distress Scale (K10). The K10 is a 10-item

questionnaire that assesses overall psychological distress based on questions about symptoms of anxiety and depression that an individual experienced over a four-week period. Scores range from 10 to 50. A total score between 10-15 indicates a low level of psychological distress, a score of 16-21 indicates moderate levels of psychological distress, a score of 22-29 indicates a high level of psychological distress, and a score of 30-50 indicates very high levels of psychological distress.

For every respondent, the scores on each question were summed to create a total K10 score. Across the sample, the mean K10 score was 22.40 (SD = 9.48, range = 10-50). A summary of responses to each item is outlined in Table 9.

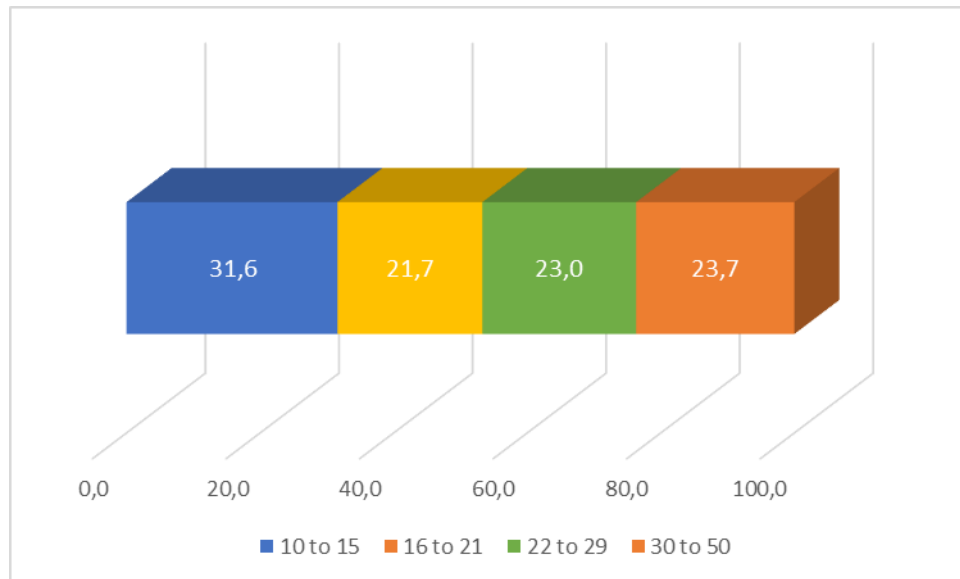
Table 9. Response to each item on the Kessler Psychological Distress Scale (K10)

K10 item	Response									
	None of the time		A little of the time		Some of the time		Most of the time		All of the time	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
During the last 30 days, about how often did you feel tired out for no good reason? (<i>N</i> = 157)	24	15.3	21	13.4	44	28.0	47	29.9	21	13.4
During the last 30 days, about how often did you feel nervous? (<i>N</i> = 157)	17	10.8	32	20.4	62	39.5	35	22.3	11	7.0
During the last 30 days, about how often did you feel so nervous that nothing could calm you down? (<i>N</i> = 156)	80	51.3	37	23.7	28	17.9	6	3.8	5	3.2
During the last 30 days, about how often did you feel hopeless? (<i>N</i> = 156)	66	42.3	36	23.1	34	21.8	14	9.0	6	3.8
During the last 30 days, about how often did you feel restless or fidgety? (<i>N</i> = 157)	29	18.5	50	31.84	36	22.9	34	31.7	8	5.1
During the last 30 days, about how often did you feel so restless you could not sit still? (<i>N</i> = 156)	92	59.0	34	21.8	16	10.3	10	6.4	4	2.6
During the last 30 days, about how often did you feel depressed? (<i>N</i> = 157)	66	42.0	40	25.5	34	21.7	14	8.9	3	1.9
During the last 30 days, about how often did you feel that everything was an effort? (<i>N</i> = 157)	44	28.0	31	19.7	46	29.3	25	15.9	11	7.0
During the last 30 days, about how often did you feel so sad that nothing could cheer you up? (<i>N</i> = 154)	83	53.9	27	17.5	32	20.8	9	5.8	3	1.9

During the last 30 days, about how often did you feel worthless? (N = 155)

98 63.2 25 16.1 23 14.8 7 4.5 2 1.3

Figure 28. Dispersion among groups, according to the score on Kessler Psychological Distress Scale (N = 191)



As can be seen in Figure 28, the most prevalent group is the one with scores between 10-15, which indicates low psychological distress (31.6%). The dispersion among the remaining groups is similar: thirty-three respondents belong to the group that scored between 16-21, which indicates moderate levels of psychological distress (21.7%), thirty-five respondents belong to the group that scored between 22-29, which indicates a high level of psychological distress (23.0%) and, finally, thirty-six respondents belong to the group that scored between 30-50, which indicates very high levels of psychological distress (23.7%).

Analysis and Discussion

The Portuguese survey results point to some contradictions in the judges' perceptions on the uptake of technology and their role and the influence of technology.

The use of technology in the Portuguese courts

In the past three decades, Portugal promoted several initiatives towards judicial modernization, developing the use of technologies in the court system for case and document management through platforms such as CITIUS⁴, SITAF⁵ and, more recently, MAGISTRATUS⁶. In line with these modernization efforts, the judges surveyed indicated that the use of technologies in the Portuguese courts is very common. The majority of respondents indicated they use a computer to prepare a draft or final judgement material (n = 212, 82.2%), as well as online legal databases (n = 206, 79.8%), remote video conferencing software such as Zoom, Microsoft Teams, and Webex (n = 198, 76.7%), a case management system (n = 187, 72.5%), and audio playback (n = 179, 69.4%). A very small number of respondents indicated that technology is used in their court to assist in creating template decisions, 'nudging', alerting or correcting judges, for neither, or for some other purpose.

The COVID-19 pandemic unveiled the importance of the modernization process of the Portuguese court system, namely the dematerialization and digitalization of processes that allowed the reorganization of services and adoption of telework during the confinement periods.⁷ Judges were more likely to work occasionally in the court building, or even away from the court building, than working all the time or most of the time at the court building (n = 68, 34.5%). It is important to note that the COVID-19 infection prevention and control measures in the Portuguese courts relied heavily on the existing technological infrastructure. The COVID-19 pandemic increased the necessity of provision of videoconferencing solutions in the courts, such as

⁴ CITIUS is an electronic platform, which seeks to provide a single online solution for judges, public prosecutors, lawyers, solicitors, enforcement agents and insolvency practitioners. CITIUS involves the modernization of core IT systems in the courts, including judicial electronic proceedings from first instances to the Supreme Courts and more than 100 technological features in all Magistrates Information Systems

⁵ SITAF is the electronic platform of the administrative and tax jurisdiction which introduced an innovative feature of digital transmission of tax proceedings from administration to administrative and tax courts

⁶ Magistratus is available since december 2021 to the first instance courts. It includes features already known (CITIUS and SITAF) and new ones, which include intelligent consultation of processes, the possibility of making personalized notes, personal agenda management, among others.

⁷ Dias, J.P., Casaleiro, P., Lima, T.M. and Gomes, C. (2021). Judicial Responses to COVID-19 Attack: Impacts on the Working Conditions of Portuguese Courts. *International Journal for Court Administration*, 12(2), p.7. <https://doi.org/10.36745/ijca.382>

the Cisco Webex Meetings tool, and its wider use by all the judicial professions, with the necessary technological updates and the adaptation of infrastructures to a more demanding load.⁸ The majority of respondents agreed that some of the changes resulting from the emergence of COVID-19 would remain, namely a wider use of video or telephone hearings.

The widespread use of videoconferencing is linked to the pandemic period. The majority of judges indicated that they had already participated in online remote trials or hearings using such technology (n = 175, 81.8%) before, and most of them make a positive assessment of the video-conferencing technology performance in supporting fair outcomes (n = 210). Participation in online remote trials or hearings using videoconferencing is more common among first instance judges than judges from the higher courts, which is in line with the competences of each instance (procedural and material competences). The above-mentioned findings do not detract from the fact that most judges still show preference towards in-person hearings. The vast majority of respondents indicated their preference for in-person hearings (n = 161, 76.3%) compared to online hearings using video-conferencing technology or a mixture of both. This reluctance towards innovation can be linked to inadequate technological infrastructure and outdated court technology, but also to concerns related to the suitability of online proceedings for some procedures, such as judicial interrogations, and the guarantee that some basic principles are ensured through the technologies.

The observations of judges in what concerns videoconferencing show that judges recognize the benefits of remote hearings, highlighting things such as: the protection of vulnerable parties and witnesses (online dispute resolution may help to dissipate heightened emotions in family court by physically separating contentious parties and providing juveniles a medium where they feel more comfortable engaging in the process); the introduction of IT mechanisms to facilitate the participation of distant persons or remote communities; the reduction of foot traffic in courthouses; the reduction of financial burden, and of travelling and waiting times; and new types of services courts can offer to the public both virtually and in person. However, several comments on the problems with IT resources corroborate the general negative assessment of the performance of video-conferencing technology. Furthermore, besides the equipment judges personally use⁹,

⁸ Casaleiro, P., Dias, J. P., Queirós, F., and Jesus, F. (2022). When the Court Buildings Close: The Use of Technologies During COVID-19 in Portugal. *University of Bologna Law Review*, 7(2), 241–262. <https://doi.org/10.6092/issn.2531-6133/16561>

⁹ Actually, in 2019, in order to facilitate the dematerialization process, the Ministry of Justice distributed laptop computers to all magistrates. See Ana Henriques, *Ministério da Justiça vai substituir computadores dos magistrados. Juízes e procuradores vão receber 3400 portáteis novos ainda este ano, para os ajudarem no “processo de desmaterialização em curso”*. (Ministry of Justice will replace magistrates' computers. Judges and prosecutors will receive 3,400 new laptops later this year, to help them with the “ongoing dematerialization process”), PUBLICO (November 30,

there's a general dissatisfaction with the IT resources and IT support in courts, and with the internet connection.

Similar results in the assessment of IT resources emerged from a 2020 Portuguese study. The research project QUALIS aimed to analyse the working conditions of judicial professionals in Portugal and included a section about the courts functioning during the COVID-19 first lockdown,¹⁰ where the surveyed judges, public prosecutors and court clerks made a negative evaluation of the available equipment, digital platforms and internet connection. The necessity of a prompt adaptation to a range of technologies inevitably generated problems such as: the poor internet connection or even the inexistence of Wi-Fi in some courts; the lack of necessary equipment among court clerks and court users; the fragility of systems that lacked the sophistication to cope with unexpected demands; the inadequate mechanisms of data protection; the lack of training in the use of the new technologies; and the lack of IT support services when there were difficulties.

Judges perception on their role and the influence of technology

Several previous researches have drawn attention to the transformative power of ICT in what concerns the roles and practices of the judicial professionals, in their daily routines¹¹, the decision-making processes¹², and the professionals' relationships (increasing the dependence of magistrates on IT experts)¹³. Existing literature also points to the impacts that ICT might have on the spatial needs of the courts, raising the possibility of courts having both physical and virtual settings, requiring a shift in thinking about courthouse design (both physical and virtual), particularly in what regards courtrooms, magistrates' working spaces, or electronic storage/archival spaces.¹⁴

2018), <https://www.publico.pt/2018/11/30/sociedade/noticia/ministerio-justica-vai-substituir-computadores-magistrados-1853118>.

¹⁰ Casaleiro, P., Dias, J. P., Queirós, F., & Jesus, F. (2022). When the Court Buildings Close: The Use of Technologies During COVID-19 in Portugal. *University of Bologna Law Review*, 7(2), 241–262. <https://doi.org/10.6092/issn.2531-6133/16561>

¹¹ Fernando, P.; Gomes, C.; Fernandes, D. (2014). The Piecemeal Development of an e-Justice Platform: The CITIUS Case in Portugal. In: F. Contini and G. F. Lanzara (eds.). *The Circulation of Agency in EJustice - Interoperability and Infrastructures for European Transborder Judicial Proceedings* (pp. 137-159). Dordrecht: Springer.

¹² Gualdi, F.; Cordella, A. (2021). Artificial Intelligence and Decision-Making: the question of Accountability. *Proceedings of the 54th Hawaii International Conference on System Sciences*, pp. 2297-2306.

¹³ Susskind, R.. The future of Courts. *Remote Courts*. <https://thepractice.law.harvard.edu/article/thefuture-of-courts/>.

¹⁴ Branco, P. (2016). Courthouses as Spaces of Recognition, Functionality and Access to Law and Justice: A Portuguese Reflection. *Oñati Socio-Legal Series*, 6, 3, pp. 426-441.

The responses of judges seem to suggest a positive view of the potential of technology to increase access to justice and the efficiency of court processes, with a vast majority of respondents (90.2%) indicating that the increased use of digital technology has had a positive impact on access to justice. Additionally, the majority of respondents also agreed that existing court processes could be made more efficient with the better use of technology (90.9%, n = 130). Judges seem to be more sceptical towards the possibility of technology enabling them to do their work more effectively in the future. Judges were asked to explain their perceptions of how technology will continue to shape their role. Many judges offered examples of technologies that could assist in future and how, and some even stressed the positive impacts the technology already had: *“Technology facilitates both the preparation of procedural documents, access to the process, and the research that precedes the decision.”*; *“A large part of today's effectiveness already results from the available technology. This effectiveness will increase as current technologies improve. It is said that artificial intelligence is quite advanced and that it will be able to organize databases and provide concrete data with a view to legal solutions with a smaller margin of error than that of humans. It will also improve the uniformity of decisions for identical cases. There will always be a danger of dehumanization.”*

However, some judges showed concerns related to the quality of the justice offered and the usability of the technologies, stressing that technologies must be user- and judge-friendly, and voiced the need for more training technology-wise. They provided several arguments: *“Technology, if well applied, can free judges from routine and merely administrative functions, but increases the distance and inaccessibility of the justice users, especially those who do not master digital media. In the context of judicial decisions, technology also facilitates the rapid treatment of common disputes, but it can make justice more impersonal, massified and only focused on statistics, forgetting the quality and resolution of people's concrete problems”*.

“Overcoming the need for training, technology (assuming that it works regularly) allows for greater comfort and better management of the service and, in that sense, a gain in efficiency. Conversely, failing that assumption, the use of technology has an efficiency cost.”

In fact, when asked about the judicial training they have received in relation to the technology used in their work, most judges considered that the extent of judicial training, the quality of the judicial training, and the time available to undertake judicial training could be better.

Judges' perceptions of changes in the judiciary

There's a historical resistance to change within the legal system and within the courts, including in Portugal.¹⁵ Interestingly, while the majority of respondents indicated that the amount of changes imposed in recent years were too many (n = 103, 55.1%), a high percentage of judges recognized that more changes are still needed in the court system (n= 113, 60.8%). This apparent contradiction may be related to the lack of evaluation of reforms over policy changes that affect judges. The majority of respondents agreed with the statement "the judiciary needs to have control over policy changes that affect judges" (67.9%). Accordingly, a recent OECD report on justice transformation in Portugal recognized the substantial efficiency gains in the justice system brought by the modernization reforms, but mentioned that there is still scope to enhance the involvement of the judiciary and individual judges in court transformation.¹⁶

Despite the referred historical resistance to change, respondents' concerns about key changes in the court system suggest a high level of concern for the impact of fiscal restraints, loss of government respect for the judiciary and loss of judicial independence (N = 182), but a low level of concern for technological change. In relation to technological change, the majority of respondents expressed no or only slight concern. The low level of concern on technological change in the profession may suggest an overall acceptance on the increase of its use. However, it is important to note that until now the informatization of the Portuguese courts induced significant changes in the routines of legal and judicial professionals by introducing new automatisms and redistributing the work of each judicial actor (Fernando, Gomes, and Fernandes 2014), nevertheless the role of each player remained mainly the same. Actually, judges expressed a slightly higher concern about the reduction of face-to-face hearings, with 49.2% revealing to be extremely or somewhat concerned about the reduction of face-to-face hearings. The high level of concern for the reduction of face-to-face hearings in the justice system, despite a relatively low level of concern for technological change, may be related with the inherent tensions between traditional court systems and online dispute resolution solutions and new judicial roles and the dangers on the quality of justice and the guarantee of the main principles to achieve a fair outcome.

¹⁵ Dias, J. (2016). The transition to a democratic Portuguese judicial system: (delaying) changes in the legal culture. *International Journal of Law in Context*, 12(1), 24-41. doi:10.1017/S1744552315000373. Dias, J.P. and Gomes, C. (2018). Judicial Reforms 'Under Pressure': The New Map/Organisation of the Portuguese Judicial System. *Utrecht Law Review*, 14(1), p.174-186. <https://doi.org/10.18352/ulr.448>

¹⁶ OECD (2020), JUSTICE TRANSFORMATION IN PORTUGAL: BUILDING ON SUCCESSES AND CHALLENGES. https://www.oecd-ilibrary.org/sites/184acf59-en/1/1/1/index.html?itemId=/content/publication/184acf59-en&_csp_=54b05e9f241772067d1094547836caad&itemIGO=oecd&itemContentType=book

In what concerns AI in particular, respondents were asked to reflect on the possibility that judges might be replaced by technology in the next 10 years, 20 years, and 30 years. The percentage of respondents who endorsed this notion increases as the time period advances. However, for any of the time periods, the majority of respondents do not endorse the notion that judges can be replaced by technology, despite currently AI-based tools being developed in multiple working contexts. According to Susskind, there are three key reasons why judges may be reluctant to new technologies that are transformative of the judicial role: ‘status quo bias’, explained as a tendency to resist change; ‘irrational rejectionism’, being the dismissal of a system with which the critic has no direct person experience; and ‘technological myopia’, referring to the inability to anticipate that tomorrow’s systems will be vastly more capable than those of today.¹⁷ Interestingly, most respondents expressed a clear interest in receiving further training to understand how newer technologies linked to artificial intelligence (AI) can impact on judicial work (n = 132, 51.2%).

¹⁷ Susskind, R. (2019), *Online Courts and the Future of Justice*. Oxford University Press, 43.

alternativas, emancipação, cidade, cidadania, educação, classe, risco, colonialidade, interculturalidade, comunidade, mestiçagem, religião, democracia, conhecimento, contrato social, negritude, território, cosmopolitismo, hospitalidade, pós-colonialismos, hegemonia, pachamama, racismo, povo, resistência, universidade, utopia, sindicalismo, diáspora, globalizações, epistemologias do sul, identidades, violência, tradução, direitos humanos, ummah, ecologia de saberes, media, suma kawsay, movimentos sociais, fronteira, feminismos, governação, migrações, modernidade, memória, trabalho, orçamento participativo, património, sociedade.

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