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Information & Communication Technology in the Indian Judiciary: Evaluation of the eCourts Project Phase-II

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Foreword

In recent years, advancements in technology have significantly impacted the execution and delivery of public services globally. This is also evident in India in faster and more efficient communications and a rapid increase in the access to public services. In particular, technological innovations have had a salutary impact on the Indian legal and court systems. Technology has enabled more productive use of resources in court administration, a more mediatory approach in litigation instead of an adversarial one, and greater overall efficiency and accessibility to the courts. A key initiative here has been India's eCourts project.

The Department of Justice (DoJ) in the Ministry of Law and Justice of the Government of India, and the e-Committee of the Supreme Court of India, jointly conceived of the eCourts Mission Mode Project in 2007. The goal was to ICT-enable district and *taluka* courts to enhance their efficiency and speed of adjudication. The project was implemented in two phases, with Phase I running from 2010 to 2015, and Phase II from 2015 to 2019. During the course of the project, several essential facilities were introduced in the courts, both hardware such as computers and printers, and systems such as the Case Information System and mobile Apps. The e-Courts project now covers 16,845 courts across the country.

The National Council of Applied Economic Research (NCAER) was requested by DoJ to evaluate Phase II of the eCourts project. The NCAER research team conducted the analysis based on inputs and insights from a wide range of stakeholders, including judicial officers, court officials, lawyers, litigants, staff of the District Legal Services Authority and the State Judiciary Academy, Central Project Coordinators, officials of the National Informatics Centre, and hardware and services vendors. Since the study was undertaken during the Coronavirus pandemic, it was not possible to conduct face to face interviews with stakeholders spread across sample courts and at the State level, as had originally been planned. To their credit, the team rapidly pivoted to email and telephone-based interviews with stakeholders. Although this led to lower response rates for some categories of respondents such as litigants and lawyers, the study succeeded in capturing vital information about the performance and impact of the project. Here, it is important to acknowledge that the NCAER team was able to execute the study using an innovative approach thanks to the support of the e-Committee and DoJ, which facilitated the contact with stakeholders in the sample courts as well as at the State and regional levels.

The study finds that the new facilities and technology made available under e-Courts Phase II have been widely adopted by stakeholders. However, it also finds that a typical stakeholder, particularly litigants, may find it technically challenging to use the new technologies and related applications. This suggests the need to make available regular training and retraining courses in the use of technology and these innovations for stakeholders at all levels. The study also reveals a wide gap in awareness levels among litigants about the judicial facilities available to them. In such cases, the involvement of Common Service Centres (CSCs) may prove beneficial in spreading information about eCourts judicial services, especially among the marginalised sections of the population. The CSCs could become the first point of contact for disseminating such information among the public. There is some evidence that adoption of technology under the project has reduced

pendency rates at the district and *taluka* levels. Finally, the study emphasises the need for regular performance monitoring of the system to ensure optimal utilisation of the eCourts infrastructure and applications.

NCAER would like to thank DoJ for offering this unique opportunity to evaluate Phase II of the eCourts project. I would like to express our appreciation to Mr Barun Mitra, Secretary; Mr Pravash Prashun Pandey, Joint Secretary; Mr Ashok Kumar, Director; and Dr Sahdev Singh, Under Secretary, DoJ, for their support and guidance throughout the project. Our gratitude also goes out to Dr Alok Shrivastava, former Secretary, Mr Sadanand Date, former Joint Secretary, and Mr Giridhar Gopalkrishna Pai, former Director, DoJ, for their invaluable help during the study. I am grateful to the eCommittee, Supreme Court of India, especially Mr A Ramesh Babu, Member (Project Management), and Mrs Arulmozhiselvi Ramesh, Member (Human Resources), for offering their assistance in the surveys of various stakeholders. Finally, we would like thank all the respondents for their participation in the NCAER sample survey.

At NCAER, I would like to thank my former Special Assistant, Ms Namrata Ramachandran, for initiating this work, and the rest of the team, which was led by Dr Sanjukta Das, and comprising Dr Shayequa Zeenat Ali, Ms Leann Mary Kurias, Ms Aishwarya Mandal, and Ms Vaishali Hasija, for carrying out this study, as also Dr Sandhya Garg, Mr Jaskirat Singh Kohli and Ms. Anika Kapoor, who were associated with the study in the initial stages. This study was carried out under the overall supervision of Dr Shashanka Bhide, Senior Adviser, Research at NCAER. I am grateful to him, as always, for ensuring quality and for guiding the team.

Shekhar Shah

Director General

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The study team would like to express their appreciation to Mr. Barun Mitra, Secretary, Department of Justice and Mr. Pravash Prashun Pandey, Joint Secretary for their support and guidance during the course of the project. Mr. Ashok Kumar, Director and Dr. Sahdev Singh, Under Secretary have been providing the encouragement and support throughout the course of the study. We would also like to record our appreciation to Dr. Alok Shrivastava, former Secretary, Department of Justice, Mr. Sadanand Date, former Joint Secretary, and Mr. Giridhar Gopalkrishna Pai, former Director, from DoJ, for their support. We are grateful to the eCommittee, Supreme Court of India, especially Mr. A Ramesh Babu, Member (Project Management), and Mrs. Arulmozhiselvi Ramesh, Member (Human Resources), for providing us with all the support in conducting the survey of various stakeholders and their guidance. The study required a major change in methodology because of the infeasibility of conducting a face to face interview approach. With the support of eCommittee and DOJ, the study adopted the approach of obtaining responses from the sample of respondents to the emailed questionnaires. This approach, could be adopted only because of the full support from the eCommittee and DOJ. We are also thankful to the Department of Justice for their very valuable comments on the draft report, which helped us fill some gaps in our study and improve interpretation of findings. Finally, we thank all the respondents we interviewed for their cooperation for the sample survey which was part of this study.

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Abbreviations and Acronyms

ABA	American Bar Association
ADR	Alternative Dispute Resolution
APP	Application
ATM	Automated Teller Machine
BSNL	Bharat Sanchar Nigam Limited
CCEA	Cabinet Committee of Economic Affairs
CCTV	Closed-Circuit Television
CFC	Central Filing Centres
CIMS	Court Information Management System
CIS	Case Information System
CMS	Case Management System
CNR	Case Number Record
CPC	Central Project Coordinators
CR	Clearance Rate
CRT	Civil Resolution Tribunal
CSC	Common Service Centre
DC	District Court
DG	Diesel Generator
DLSA	District Legal Services Authority
DoJ	Department of Justice
DT	Disposition Time
e-CODEX	e-Justice Communication via Online Data Exchange
EC	Empowered Committee
EU	European Union
FIR	First Information Report
FOSS	Free and Open Source Software
ICT	Information and Communication Technology
ID	Identity Document
IJP	Integrated Justice Project
ILMS	Integrated Library Management System
IT	Information Technology
JKMS	Judicial Knowledge Management System
JO	Judicial Officer
JSC	Judicial Service Centres
LAN	Local Area Network
MCOL	English and Welsh Money Claim Online
MeitY	Ministry of Electronics and Information Technology
MPLS	Multiprotocol Label Switching
MTNL	Mahanagar Telephone Nigam Limited

NCAER	National Council of Applied Economic Research
NIC	National Informatics Centre
NJDG	National Judicial Data Grid
NSTEP	National Service and Tracking of Electronic Processes
ODR	Online Dispute Resolution
OSC	Online Solutions Court
OTP	One-Time Password
PC	Personal Computer
P15Y	Pending for 1 to 5 years
P510Y	Pending for 5 to 10 years
PEU	Perceived Ease of Use
PG10Y	Pending for greater than 10 years
PIL	Public Interest Litigation
PL1Y	Pending for less than 1 year
PLV	Para-Legal Volunteers
PMU	Project Monitoring Unit
PU	Perceived Usefulness
SJA	State Judicial Academies
SMS	Short Message Service
TAM	Technology Acceptance Model
TC	Taluka Court
TLS	Tele Law Scheme
TLSC	Taluka Legal Services Committee
TOL	Italian Trial Online
UPS	Uninterrupted Power Supply
USA	United States of America
VC	Video Conferencing
VLE	Village Level Entrepreneur
WAN	Wide Area Network

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Executive Summary

The eCourts project, implemented by the Department of Justice (DoJ), Ministry of Law and Justice, has been under implementation since 2007 and now covers 16,845 courts. The project aims to bring in new technology and infrastructure to district and taluka courts, to make the functions more efficient and transparent and the services more easily accessible. The reach of the Information and Communication Technology (ICT) infrastructure has expanded significantly during the period since the project has been launched.

This study provides an evaluation of the eCourt Mission Mode Project-Phase II. The study is based on a sample survey of its key stakeholders, covering the various components of the project and an analysis of the secondary information on the performance of the courts in terms of new cases, disposition and pending cases in the period when the project has been in operation. While the study provides a comprehensive view of the performance and impact of the project, execution of the study has been impacted by the extraordinary conditions that have prevailed over the last nine months, affected by the Covid 19 pandemic, which made the personal interviews with the stake holders impossible. The survey was done using emailed questionnaires in a very short period of time, resulting in lower response rates than expected. The response rate for litigants was particularly low. Response was also low in the case of Maharashtra among the larger states. However, the overall results of the study provide a comprehensive view of the impact of the project.

We provide below a summary of the key findings of the study, and implications and recommendations for policy.

Profile of the Sample Respondents and Access to Services

Key Findings:

- From the responses provided by court officials, about 93 – 100 per cent of sample courts have provision of computers and printers and have installed Case Information System (CIS). The proportion of courts with kiosks and Video Conferencing (VC) equipment is slightly lower at about 84 – 96 per cent. While all District Courts (DC) courts have electricity backup facilities, none have provisions for solar power. This pattern is evident in Taluka Courts (TC) as well.

- Only around 34 per cent of litigants in our small sample were aware of the eCourts project and even lesser proportion were aware of the components of the programme. In fact, a significant majority of litigants only access their case records through their lawyers, despite having the options of the national portal and the mobile app at their disposal.

- Very few court officials have been provided with an official email id (only about 3 per cent in TCs) and use it mostly for inter-departmental communications. Communications with lawyers and litigants through email is very rare. This in

itself is not a constraint so long as the official communications within the system are possible through such electronic medium to derive the full benefits of the ICT applications.

- The profiles of the respondents in our sample, based on their responses, reveal that while most judges have intermediate level of knowledge of computers, a few court officials and lawyers and the majority of litigants, have low computer literacy. The inadequate ability to use the technology can pose a significant challenge for deriving full benefits from the programme.

- While a moderate to high proportion of judges and court officials had received training in the use of CIS, National Judicial Data Grid (NJDG) and hardware, not many of these trainings were conducted on a periodic or repeated basis. Almost all respondents were of the opinion that the trainings were very useful. Periodic training sessions to upgrade the capacity of personnel to manage their operations may be considered to benefit from the technical capacity that is created. While these measures are in operation, there is a need to make them more effective.

- On examining the factors influencing awareness of litigants regarding the eCourts project, the indicators found to be important include location, computer literacy and social category.

Recommendations:

- There is a need to generate more awareness through publicity campaigns regarding the project among the general public, which would make the legal processes more efficient and provide access to more information about the cases for litigants and the lawyers.

- As benefits from increased computer literacy among the general public are not limited to access to justice alone, efforts to raise computer usage or more generally the electronic communication media may be needed from a broader policy perspective. While many eSeva Kendras have been set up around the country, the role of Common Service Centres (CSC) may also be explored in facilitating the spread of information about the judicial services and access to them, especially among the marginalised sections of the population. The CSCs-located near the courts or elsewhere would be the key points of interface for the general public and the remote services provided by the judicial system.

Adoption, Satisfaction and Feedback

Key Findings:

- The facilities of the eCourts programme which exhibit high degree of Perceived Usefulness (PU) are the CIS, JustIS mobile app, and the NJDG website. These also have high Perceived Ease of Use (PEU). Hence, these are the most widely

accepted and adopted, as per the Technology Acceptance Model (TAM) used in the study as a framework of this analysis. The high level usage may also reflect the essential nature of these facilities for the work of the courts.

- National Service and Tracking of Electronic Processes (NSTEP) exhibits both low PU and PEU. This is likely because it has not been implemented across all the courts fully. However, VC facilities exhibit a low degree of PEU despite being around for a relatively longer period of time and this is a cause for concern.

- We explored the main reason for low utilisation of VCs and found this to be mainly due to technological reasons like poor connectivity leading to unclear visuals or audio. Lack of technological knowledge is the major barrier faced by litigants in using kiosks, national portal and mobile app.

- Our survey reveals, e-filing is in a nascent stage of implementation in the sample states. One of the major reasons cited by lawyers for not using e-filing facility was inadequate help in operating the system. Other reasons mentioned include the facility not having been introduced in their court complexes and lack of comfort in transitioning to a new method.

- On examining the factors affecting adoption of CIS and VC, we find that the ease of use is an important determinant of the usefulness of a technology, as predicted by the TAM. Training, computer literacy and ICT infrastructure such as internet connectivity are also important.

- Judges are most satisfied with the improvement in court time management and transparency of information that has resulted from implementation of eCourts project. However, less than 60 per cent of the judges are satisfied with the quality of hardware and technical manpower. On the other hand, more than 70 per cent of court officials are satisfied with all the facets of the eCourts programme, except quality of technical manpower.

Recommendations:

- There should be some initiation programme into new processes introduced under the project, for facilities such as in NSTEP and e-filing to the end-users. Until the usage is fairly widespread, support in the use of these services would create more confidence among the users and a feedback by the users will help improve the services.

- Staff should be trained in operating the hardware fully and in providing adequate support specifically for handling issues related to VCs.

Impact of the project

Key Findings:

- Majority of judges and court officials feel that eCourts project has reduced pendency of cases, due to the fact that the project has eased the access to case law and this enables them to do their research faster and templates save time. The responses on whether the eCourts project has reduced time and cost of litigation are also positive. Lawyers mention that most of the time saved and cost reductions have been in the case of accessing court records.

- On examining the trends in a few efficiency measures for the eCourts, we find that: a) the cases pending for over 5 years have displayed a slow but steady decline over the years; b) the clearance rate has stayed quite steady over the years; and c) the disposition time has declined significantly for TCs between 2013 and 2019.

- Further analysis of secondary data corroborates the perceptions of the respondents that technology adoption under the eCourts project has led to significant reduction in the number of pending cases, through the use of tools like CIS on the part of judges and court officials.

Recommendations:

- The eCourts project has created the basic infrastructure for more efficient operations of the courts. Maintaining these infrastructure services at high performance levels is critical to the success of the scheme. Training personnel at all levels in the use of new ICT infrastructure is also essential to the success of the project. While reduction in the pendency rate may not be entirely dependent on the introduction of ICT in the system, the modernisation of operations is one of the key initiatives in this sector that will complement all other initiatives.

- Increased monitoring of the progress of the eCourts project in terms of effective use of new ICT infrastructure through some measurable indicators, such as the number of hearings that take place in a specified period such as monthly or quarterly or filing of cases, the use of VC facilities, use of e-filing cases or use of facilities in CSCs.

Other perspectives

Key Findings:

- Some of the challenges faced by Central Project Coordinators (CPC) in executing their roles include inadequate manpower for technical and accounting support, and access to vendors in remote locations. Although they ultimately get the funds, some of the CPCs mentioned that it was a time consuming and tedious process. They provided several suggestions for improving the impact of the project like creating public awareness.

- National Informatics Centre (NIC) officials are mainly engaged in the formulation, planning and implementation of the ICT infrastructure in eCourts. They face several problems related to hardware maintenance/replacements, as there is scant monitoring and vendors often run out of parts. Some of their suggestions for improvement include, introduction of paperless court/virtual hearings/open court (live streaming of cases).

- Both the CPCs and NIC officials felt that the eCourts Project has led to an increase in the total number of cases filed in the courts and helped with easier access to information through online portals and mobile applications, which is also corroborated by the judges in our sample.

- State Judicial Academies (SJA) and District Legal Services Authority (DLSA) staff indicated a high level of satisfaction with the access and quality of the various ICT facilities provided under the eCourts project and also the manpower recruited to maintain and operate the infrastructure.

- According to the vendors spoken to, the procurement process by the DoJ is well planned and all payments are received on time. This may also be a reflection of the fact that orders are placed with vendors only when funds have been successfully arranged.

Recommendations:

- Review and streamline the financial processes to make the procurement process more efficient so that the ICT infrastructure in the eCourts is performing to its capacity.

- Improved inventory management of parts and other requirements to reduce the down time for the infrastructure services.

- Looking into the possibility of expanding the coverage of Online Dispute Resolution (ODR) for all types of cases.

Drivers and Constraints

The eCourts project has made significant leaps in ICT enablement of courts across the country. The biggest strength of the project remains the creation of a common case management and information system across courts around the country, CIS, which is also the largest Free and Open Source Software (FOSS) in the world. This has resulted in increased levels of transparency of information and eased many court processes like monitoring of pending cases, thereby saving valuable time of court staff. As we have seen, this is also one of the most widely accepted and adopted innovations of the project and has likely helped in reducing pendency of cases. The various facilities

which are integrated with the CIS also provide valuable service and enable easy assimilation and exchange of digital information. For instance, the NJDG, which is home to information on around 14 crores pending and disposed cases, is an offshoot of the CIS, and is similarly popular. The study also reveals that in some cases while an innovation holds promise conceptually, it is only with time that its usefulness becomes apparent, which may be the case with the e-filing facility.

Another big strength of the project is the CPC, whose responsibility is to co-ordinate the implementation of the various tasks of the project, such as infrastructure deployment. As the CPC in each High Court is chosen from among Judicial Officers,[1] he / she is well versed in legal matters and the structure of the judicial system and can serve as an effective point of contact for information related to the functioning of the subordinate courts as they are in regular touch with them. This can prove beneficial not only for the implementers of the project, like eCommittee, but also for academic researchers / institutions looking to delve into aspects related to court efficiency and access to justice, which may lead to further innovations and developments. Indeed, the CPCs who were interviewed as a part of this project were very knowledgeable and helpful and facilitated the impact analysis in this study by providing us with the data.

However, despite the promise of the various services provided under the eCourts project in ensuring affordable and expeditious justice delivery, the project faces several constraints. As we have seen, satisfactory internet speed is an important factor in adoption of the technologies under the project and forms the backbone of the project. As of December 2020, 98 per cent of targeted court sites have been equipped with WAN connectivity. Yet, as per our survey findings, internet connectivity is a challenge in TCs as only 59 per cent of court officials report that internet speed is satisfactory compared to nearly 93 per cent of court officials in DCs. Other constraints include quality of technical manpower, low computer literacy, low awareness, and relative complexity of VC equipment, which have been mentioned above.

Overall Conclusions

The results of the study confirm that the introduction of ICT based applications and innovations into the operations of the Indian courts have helped to enhance the efficiency of these courts. The integration of the technologies into the processes of the judicial system, has been planned systematically, taking into account the many stakeholders involved and the challenges of implementing the project in diverse settings across the country. In this study, we have attempted to provide an evaluation of the Phase II of the project based on the experiences of the various stakeholders of these new initiatives.

While many of the new facilities and technology have been widely adopted by the stakeholders of the project, like the CIS, there remain challenges with the utilisation of others, particularly in the initial stages of their introduction.

[1] https://ecommitteesci.gov.in/project/brief-overview-of-e-courts-project/

The eCourts project has built in programmes of training for the judicial officers and court officials in the use of the new technologies. While there is a need for refresher training courses at all levels, there is a particular need for such training and awareness measures for the other end-users. The CSCs and eSeva Kendras need to become the central points for the litigants and lawyers both as sources of information about accessing the court services and also obtaining services such as filing documents and payment of fees, if any.

It is also to be noted that the programme is complex, depending on a variety of technical skills, equipment, software and connectivity through tele-networks, requiring coordination at all levels. One area that appears to have been highlighted in the inputs to the study is the procurement process for equipment. Streamlining these processes should be given attention.

An important point to keep in mind is the rising trend in the use of ODR around the world. Currently ODR in India is in a very nascent stage, used mainly in e-commerce disputes. However, ODR can prove very useful in breaking barriers to access to justice by mitigating time and cost of litigation like in other parts of the world. However, pilot testing of these initiatives will help in scaling up the services.

Experiences from around the world suggest that systems which have been gradually upgraded, from handling simple specific problems to execution of more complex tasks like case management, have been the most successful and have led to a more productive use of resources. The evaluation of the current status of the eCourts project indicates that many of its facilities while absorbed by the officials involved in the court processes, are technically complex for the average stakeholder, particularly in the case of litigants and to some extent lawyers. It is to be borne in mind that the facilities are extended to sub-district level also and ensuring that the end-users are adequately informed and trained in the use of new services is critical to achieve full utilisation. The survey reveals that while trainings are conducted for court staff on the facilities used by them, the same is not true for lawyers and litigants, for whom the only recourse may be the instruction manuals, like in the case of e-filing. This may not be as effective as live demonstrations in trainings.

Finally, the results on the impact of project on pendency look promising. The benefits in terms of ability to manage the court functions better, access records and reference materials better and reduce the costs have been reported. The need for regular monitoring of the performance of the system from all perspectives is necessary to ensure full utilisation of the infrastructure.

The eCourts project is impacting the processes of the courts at the district and taluka levels. The initial experience gained will help in improving the performance of the project. This study has highlighted areas for attention to improve the performance the project.

Chapter 1: Introduction

1.1 Backdrop

India's judicial system faces immense pressure due to the mismatch in the capacity of the system to address the rising demand for its services. The capacity constraints can be addressed by increasing the number of personnel in the entire chain of these services but there is also a need and opportunity to introduce ways to improve efficiency without diluting the quality, through application of technology in its operations wherever relevant. As per the Department of Justice (DoJ), in the year 2020, the judge to population ratio in India was 20.91 to 10 lakh.[2] While this represents a marginal improvement over previous years, it is extremely low in comparison to the rates observed in developed countries like USA (107), Canada (75) and Australia (41)[3] and aggravates the already high incidence of pending cases in Indian courts, leading to further delays in justice. Moreover, rural penetration of courts in India is also low, which significantly limits access to justice for the many citizens living in remote locations[4]. In order for the judiciary's complex system to operate in an efficient and streamlined fashion, it requires robust systems in place for the communication, storage and management of information. As e-governance initiatives proliferate all spheres of public service delivery in India, their impact on the judicial systems will also be felt through the application of Information and Communication Technology in their operations. Seamless communication between officials within the judicial system, lawyers, citizens, and other stakeholders is a major step forward in improving the efficiency of the system. Recognising this, the Government has implemented the eCourts project in a mission mode, since 2007.

The ***eCourts Integrated Mission Mode Project*** is one of the National e-Governance initiatives being implemented in courts across the country with the objective of providing designated services to litigants, lawyers and members of the Judiciary through universal computerisation and upgradation of ICT infrastructure.[5] Under the project, the courts would be provided with necessary hardware and software applications to enable them to deliver a host of e-services (such as - case filing, certified copies of orders and judgments and case status) to the public, and to enable the judiciary to monitor and better manage the functioning of courts.

The overall objectives of the eCourts project are as follows[6] -

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[2] Rajya Sabha, Monsoon Session 2020, Unstarred Questions.
https://doj.gov.in/sites/default/files/RS-22.9.20_0.pdf

[3] https://www.theleaflet.in/what-does-data-on-pendency-of-cases-in-indian-courts-tell-us/#

[4] Schild, Rebecca. *The Role of ICT in Judicial Reform- An Exploration*.November 18, 2009. The Centre for Internet and Society (CIS https://cis-india.org/internet-governance/blog/what-will-be-the-role-of-ict-in-indias-judical-reform-process

[5] Brief-on-eCourts-Project-(Phase-I-&-Phase-II)-30.09.2015.Department of Justice. GoI. https://doj.gov.in/sites/default/files/Brief percent20on percent20eCourts percent20Project percent20 percent28Phase-I percent20 percent26amp percent3B percent20Phase-II percent29 percent20Dec percent202016.pdf

[6] https://ecommitteesci.gov.in/project/brief-overview-of-e-courts-project/

- To provide efficient and time-bound citizen centric services delivery as detailed in eCourt Project Litigant's Charter.
- To develop, install and implement decision support systems in courts.
- To automate the processes to provide transparency in accessibility of information to its stakeholders.
- To enhance judicial productivity, both qualitatively and quantitatively, to make the justice delivery system affordable, accessible, cost effective, predictable, reliable and transparent.

The specific objectives of the Project include[7]-

- To make whole judicial system ICT enabled by putting in place adequate and modern hardware and connectivity.
- Automation of workflow management in all courts.
- Electronic movement of records from taluka/trial to appeal courts.
- Installation of VC facility and recording of witness through VC (refer to Annexure Table A1 for details on all the physical achievements under the project).
- Connecting all courts in the country to the NJDG through WAN and additional redundant connectivity.
- Citizen centric facilities such as electronic filing, e-payment and use of mobile applications in all courts.
- Touch screen based kiosks in each court complex, full computerisation of state and district level judicial and service academies and centres.

1.2 Evaluation of eCourts Mission Mode Project

The Cabinet Committee of Economic Affairs (CCEA) first approved the plan to computerise 13,348 district and subordinate courts in 2007, at a cost of Rs 441.80 crore. However, the scope of the project was subsequently revised to cover the computerisation of 14,249 district and subordinate courts between 2010 and 2015 at a cost of Rs 935 crore. This was termed as ***Phase-I*** of the project.

The National Council of Applied Economic Research (NCAER) was requested by the Department of Justice (DoJ), Government of India to carry out an assessment study of the Phase I of the eCourts Mission Mode Project. The major objective of the study was to evaluate the effect of computerisation in district and subordinate courts across the country. The NCAER assessment study found that the eCourts (Phase I) project created awareness about computerisation among courts and about the application software, namely, CIS, among the important stakeholders; the project achieved more than 90 per cent of the targets in ICT deployment in terms of asset creation; and the eCourts project was able to save time in the work process through computerisation. The findings were important for the adoption of appropriate policies in the next phase of the eCourts project.

[7] https://pib.gov.in/newsite/erelcontent.aspx?relid=174192

Phase–II of this project, which envisions further enhancements, was commissioned in 2015 for a period of four years, at a budget of Rs 1670 crore. It was designed to focus not only on the computerisation of courts across the country but also help in the automation of workflow management enabling the courts to exercise greater control over the management of cases.[8] The focus of the Phase–II is on enhancing judicial service delivery for litigants and lawyers by improving ICT infrastructure and providing technology-enabled judicial processes across seven platforms including web portal, mobile app, judicial service centres, kiosks, etc. The project also provisions for capacity building initiatives for officers, ICT provisioning of DLSA, TLSC and SJA as well as judicial process re-engineering.[9] Recognising NCAER's prior experience in evaluating Phase I of eCourts Mission Mode Project and expertise in various areas of applied economic research, the council has been assigned the responsibility of evaluating the Phase II of the project.

The Phase II has the following components under the Central Sector Scheme "eCourts Mission Mode Project Phase II".

TABLE 1.1: ACTIVITY WISE BREAK UP OF COST ESTIMATES OF ECOURTS MISSION MODE PROJECT PHASE II

Sl. No.	Component	Rs Crore
1	Additional Hardware for 14249 Courts (4 in numbers), Computerisation of new Courts (8 in numbers) and Computerisation of expected Courts (8 in numbers)	745.31
2	Technical infrastructure at existing Court complexes and new Court Complexes	340.56
3	Replacement of obsolete Laptops provided to Judicial officers in Phase I and provisioning of Laptops and other IT facilities to new Judicial Officers	69.07
4	Installation of VC equipment in Courts and jails	33.10
5	Installation of hardware in Judicial Academies and training labs	4.07
6	Computerisation of DLSAs and TLSCs	45.31
7	Cloud Connectivity in all Court Complexes	73.00
8	WAN Connectivity (completed in 98% of targeted courts)	231.32
9	Solar Energy in 5% Court Complexes	26.20
	Total	1670.00

Source: Please see Footnote 9.[10]

[8]Note on eCourts Mission Mode Project Phase II.Department of Justice.GoI.
https://doj.gov.in/sites/default/files/Note-for-Phase-II_0.pdf
[9] eCourts Project Brochure.
https://ecourts.gov.in/ecourts_home/static/brochures.php
[10] Sanction Order of eCourts Phase II, eCommittee, Supreme Court of India.
https://cdnbbsr.s3waas.gov.in/s388ef51f0bf911e452e8dbb1d807a81ab/uploads/2020/05/2020053169-1.pdf

1.3 Salient Features of Phase II

Based on the experience gained in the implementation of Phase I, several changes were proposed by the e-Committee, Supreme Court of India, in the execution of Phase II of the project. The salient changes proposed during Phase II of the project are given below[11].

A. Information Technology and other related facilities

Computer Infrastructure in Courts: During Phase I the number of computers provided to each court was 4. This was found to be ineffective for optimum ICT enablement. Therefore, the configuration for Phase II was up-scaled to 8 computers per court.

System of serving notices and summons: In order to solve the issue of long drawn out litigations due to delays in serving notices and summons there was a proposal for provision of authentication devices for process servers in court complexes in Phase II. The aim of this intervention is to bring about enhanced transparency and efficiency in disposal of cases.

Option of desktops or laptops: High Courts have been given the option to procure either desktop with UPS or special configuration laptop depending upon suitability as the NIC has assessed that the costs of the two are very similar.

Hardware to District Legal Service Authorities (DLSA) and Taluka Legal Service Committees (TLSC): Given that legal aid has become indispensable, the offices of DLSA and TLSC need to work in close coordination with the court processes and hence should also be provided with computer infrastructure like the rest of the court complex.

Hardware for computer labs in State Judicial Academies (SJA): Provision of a Computer Lab for every SJA was another major objective of Phase II. This was to enable sustainable ICT Training for Judicial Officers and Court Officials.

Information kiosks at each court complex: Touch-screen kiosks and printers should be installed at all court complexes which would provide litigants with information such as case status and daily order sheets, without the need to approach court officials.

Development of Central Filing Centres: Utilisation of Judicial Service Centres (JSCs) for a composite set of services and not merely filing counters, including positioning of kiosks and waiting area for litigants, Central Filing Centres and therefore, will be called JSC-cum CFC.

[11]Policy and Action Plan Phase II, eCommittee, Supreme Court of India. https://doj.gov.in/sites/default/files/Policy%20and%20Action%20plan.pdf

Court libraries computerisation: Computerisation of court libraries with implementation of an Integrated Library Management System (ILMS), a model successfully implemented in the Supreme Court, was proposed for Phase II for all High Courts and subordinate courts.

Video-conferencing of all court rooms with prisons: The VC facility would be extended to the remaining courts and prisons not covered under Phase I and would be used for remand of under trial prisoners and to record evidence during such sessions where required by the presiding officer of the court.

Solar energy for power backup: While UPS and DG sets for servers and JFCs were installed under Phase I, it was proposed that in Phase II solar energy be utilised for providing power backup for computers, printers and other hardware in 5 per cent of the court complexes, as it is environment friendly and easily available.

B. Process related changes

Service Delivery through use of cloud computing: To scale up the level of automation of court processes and improve efficiency**,** it was proposed to enhance service delivery through cloud computing. This would then reduce the need for servers and technical manpower at individual court complexes.

Revamping, upgradation and customisation of CIS software: This would include improvements such as optimum automation of case workflow and process service, e-filing, computerised double entry system of book-keeping, administrative process automation including e-office facility and e-procurement.

Systems for timely and regular updation of data: The process of data updation to NJDG to be expedited through standard operating protocols and improved connectivity in all courts. Email IDs and digital signatures would also be provided for court staff to ease the process of regular updation.

Discontinuation of manual registers: The use of ICT in courts for daily functions to be promoted and manual registers to be discontinued. Court Registers to be maintained only in e form.

Facilitating court and case management: The coverage of case data held in NJDG, the national data warehouse, would be expanded to all district and subordinate courts across the country and data mining and analytical tools would be used to analyse the data for gaining meaningful insights and preparing reports.

Mobile based service delivery through SMS and Mobile Applications: Under Phase II mobile phone applications would be available for the stakeholders of the project from which they can obtain latest case related information. Push and pull based SMS services for lawyers and litigants also to be enabled.

Scanning and digitisation of case records: Case records, after weeding, to be scanned and digitised and stored securely and systematically under the project so that they can be easily retrieved later.

Court record room management automation: The digitised documents/case records will be automatically generated in the court during case hearings.

Judicial Knowledge Management System: A comprehensive suite of facilities such as ILMS and digital library would be available to judicial officers for enabling easy access to Legal Research Documents, Committee/Commission Reports, Law Articles, Circulars, Orders, High Court Rules, etc as they prepare their judgments.

Capacity building: Regular capacity building exercise in the form of trainings to be provided to facilitate the human resources of the judicial system in efficient use of ICT infrastructure. Also, refresher courses to be carried out every six months.

Process Automation: Latest trends in technology would be tracked regularly to explore the possibilities of further automation of court processes.

C. Management related changes:

Decentralisation of implementation of the project to High Courts: eCommittee had proposed moving from a model of centralised implementation of the project by NIC to a more decentralised approach as follows:

- eCommittee will be in charge of preparing the basic design and specifications of hardware required in consultation with the DoJ and NIC.
- The High Courts of each state will be in charge of the actual procurement and implementation for which funds will be provided by the DoJ.

Strengthening and re-organisation of the institutional structure: The present institutional structure for the eCourts project comprises the following:

- eCommittee for assessing and planning the IT requirements of Judiciary and co-coordinating with the High Courts for resolution of implementation issues.
- High Courts at the State level for overseeing project implementation.
- An Empowered Committee (EC) in the DoJ for proving direction and guidance to the enablers of the project.
- A dedicated Project Monitoring Unit (PMU) in DoJ and NIC.
- Technical support teams at the Pune Unit of NIC to support CIS software development and maintenance.
- State consultants for project management.

Resource Support for Computer Labs in SJAs: The computer labs at SJA to be strengthened by allocating two resource persons to conduct trainings and provide troubleshooting services for installed IT infrastructure.

1.4 Objectives of the present study

The major objective of the current study is to assess the efficiency and effectiveness of the eCourts Project, in qualitative and quantitative terms, evaluate the procedural and substantive drivers and constraints, and the failures and successes sustained in the implementation of the eCourts Project at various stages and project phases.

As in the Phase I evaluation, the starting framework will be based on Ministry (erstwhile Department) of Electronics and Information Technology (MeitY's) existing framework for assessing e-readiness of States and Union Territories in India. The criteria for evaluation include:

a. ICT environment in courts, including strengths and weaknesses and progress in Phase II.

b. Readiness of stakeholders to use ICT.

c. Actual use of ICT

To do this, several areas of evaluations that have been added, are:

d. Quality of infrastructure and services under the eCourts Project Phase II (including VC facilities, the CIS, the NJDG portal, etc.), with a view to recommending improvements, where applicable.

e. ICT service delivery system in the courts.

f. ICT training, education and skills for judicial officers and institutional users.

g. Impact on key stakeholders and satisfaction of users and beneficiaries.

h. Contribution of the eCourts Project to the overall objective of aiding the judicial process.

1.5 Structure of the Report

The present report is organised into 10 chapters including the Introductory Chapter, which provides the backdrop for the Evaluation of the eCourts Mission Mode Project Phase II and the context for the study. This is followed by the chapter on the review of literature relevant for understanding of the broader issues covered by the study. The

third chapter discusses the methodology of the study and the sampling design for a survey of stakeholders in implementation of the eCourts project. The fourth chapter describes the profile of the survey respondents. The fifth chapter presents a detailed assessment of the awareness of respondents, availability of facilities under eCourts Phase II and trainings conducted. The sixth chapter discusses the adoption of key facilities provided under eCourts Phase II, detailing the frequency and ease of use. Chapter seven presents the feedback of the respondents on the various aspects of eCourts Phase II. The eighth chapter highlights the impact of eCourts project Phase II. Chapter nine presents perspectives of the enabling stakeholders. The concluding remarks and policy implications are presented in the tenth chapter.

Chapter 2: Literature Review

Adoption of IT and communication technologies (ICT) in a wide range of economic activities has also been a critical component of initiatives to improve the efficiency of public service delivery. In a country like India, the task of reaching a huge population over varied geographies, to provide universal access to public services has become less challenging as the ICT enabled processes allow both connectivity and efficient management of data. The judicial sector is no exception. Today, the adoption of advanced technologies is one of the main strategies for improving justice systems around the world.

In this chapter, we review a selection of articles that address some of the common themes prevalent in discussions of e-justice systems.

2.1 Principles of ICT adoption in courts

The literature on the considerations for technology adoption has stressed on the importance of simplicity and ease of access, and the need to develop simultaneously the legal framework and skills of the various stakeholders.

Several e-justice initiatives in the EU and Canada have been studied in the literature in order to understand how system design principles (like, simplicity and accessibility, timing differences between technological and legal change) and design management principles (like, incorporating feedback from key stakeholders) may affect a system's ability to improve access to justice. Some of the systems that have been studied include - the Italian Trial Online (TOL), the English and Welsh Money Claim Online (MCOL), the European trans-border system e-Justice Communication via Online Data Exchange (e-CODEX), Ontario's Integrated Justice Project (IJP), Ontario's Court Information Management System (CIMS) and British Columbia's eCourt. The lessons learned from the experience of these systems are: a) system diffusion and accessibility may be hindered by a design that is too complex; b) slow change in regulation that does not keep pace with the technology development can also negatively affect system uptake; c) decentralized organization of systems may lead to unequal delivery of service across users; d) building on an existing installed technological or legal base can reduce barriers and costs of adoption and stimulate evolution; and e) involvement of specialists from different backgrounds in the design and implementation of e-justice systems can be an advantage but also lead to a high degree of interdependence that may complicate project development (Lupo and Baily 2014).[12]

The ICT developments in the courts of various European countries have also been categorized as: a) basic technologies like computers / laptops, the provision and active use of which eases the use of more complex technology; b) technologies for court administration, like automated registers and case management systems (CMS), which support clerks' activities and play an important role in saving resources at the early

[12]"Designing and Implementing e-Justice Systems: Some Lessons Learned from EU and Canadian Examples"- Giampiero Lupo and Jane Bailey, 2014. Laws 3, 353–387.

stages of a trial; and c) technologies for supporting judicial activities, with tools like case law electronic libraries which aid in legal research (Velicogna 2007)[13].

The role of ICT in communication exchange between courts, parties and the general public, including electronic information provision, electronic filing, electronic means for notification and electronic trials, among others, is also important. These efforts in the European courts have been based on the tenets of simplifying tasks and procedures and ultimately transitioning to fully online proceedings. There is a need for maintaining a parity between the level of technological complexity and the skills of the judiciary. Further, investment in new technologies without proof of results may not only be a waste of resources but also limit future innovation and development.

2.2 Experiences around the world

It is worth taking stock of the features of digitization of courts in advanced countries as there may be much to learn from them. The success and failure stories of the evolution of information systems in the judicial sector from many parts of the world also highlight the potential benefits from the new technologies and risks to guard against.

An annual survey conducted by the American Bar Association (ABA), on technology adoption by attorneys in the USA show that there has been a significant increase in the use of technology by attorneys in the courtroom and that concerns regarding security breaches with new modes of ICT such as cloud storage are rising (Jackson et al. 2016)[14] . Some of the facilities adopted by the courts in the USA include: a) court security tools like CCTVs, physical and baggage screening, mail and package delivery screening and so on; b) submission of materials to the courts in electronic form, called as e-filing; c) locating and analysing electronic information to be used as evidence as a part of case preparation, called e-discovery; d) audio and video recording devices that enable storage of data for review and sharing, digital stenograph machines and Computer Assisted Real Time software for recording court proceedings and translation of information in real time; e) information analysis tools such as risk assessment by combination of an individual's criminal history with other socio-economic factors and legal research through the use of online databases like LexisNexis; f) case-flow management tools tracking the development of a case from filing to disposition and digital evidence management; g) IT systems for managing organizational resources such as calendar and scheduling tools; h) cross-sector information sharing tools that enable data sharing between different law enforcement agencies; and i) communication tools such as public alerts and notifications, public information functions, social media tools, mobile apps and video hearing appearances.

[13]"Justice Systems and ICT: What Can Be Learned from Europe?" - Marco Velicogna, 2007. Utrecht Law Review 3: 129–47

[14] "Fostering Innovation in the US Court System: Identifying High-Priority Technology and Other Needs for Improving Court Operations and Outcomes"- Brian A. Jackson, Duren Banks, John S. Hollywood, Dulani Woods, Amanda Royal, Patrick W. Woodson and Nicole J. Johnson, 2016. RAND Corporation.

The evolution of the e-justice systems in Singapore, Brazil, Belgium and Portugal also provide valuable insights. In Singapore, 50 per cent of court services were already computerised as far back as 2002. They pursued a process of gradual upgradation of the technology used in courts, from addressing a simple specific problem like traffic offences, to case management, e-filing and provision of real-time information to all entities. To meet budget constraints, they outsourced the support functions for the applications in use. Brazil's e-justice system passed through several phases which can be categorised as individual initiatives, computerisation and virtualisation. The first phase was where each court member decided which tools to use for carrying out his functions in the best possible way. This led to a high level of fragmentation in work within the same court division. To counter this, several information systems were created, which was the second phase. However, this led to a proliferation of information systems which could not communicate with each other, which ushered in the third phase of virtualisation, where a unifying information system for all states was created. This, however, proved to be a failure, and led to the development of a national strategy with the goals of: a) providing all courts with adequate computer equipment and b) developing a national information system. Brazil's experience emphasises the importance of proper planning and co-ordination in undertaking innovations. Belgium had similar problems. Here also, after some initial failures, they started a restructuring project called the Phenix Project, which was supposed to be a unifying platform for the entire justice system, with simple and transparent procedures. However, it was discontinued due to technical complexities. The experience of both these countries highlight the importance of some of the principles discussed in the previous section that the complexity and scale of the problems these countries tried to address at one go may have caused the failures. As with Singapore, Portugal also started technology adoption in the courts through small problems like exchange of information through email and evolved to the successful adoption of a suite of information systems capable of handling entire cases (Rosa et al. 2013).[15]

2.3 Online Dispute Resolution

"Technology is changing the way we interact with each other, which in turn is changing the way we resolve our disputes."[16] Here we examine some facets of online dispute resolution (ODR), which has been called as the use of technology in alternative dispute resolution (ADR), and may very well be the future of justice in many aspects of the system.

Anderson (2019)[17] traces the development of ADR movement, including ODR, in the context of England and Wales, the United States, Canada and Singapore. ADR rose in popularity due to the widespread discontent with the adversarial style of litigation,

[15] "Risk factors in e-justice information systems" - João Rosa, Cláudio Teixeira, Joaquim Sousa Pinto, 2013. Government Information Quarterly 30 (241–256).
[16] Rule, Colin, Online Dispute Resolution and the Future of Justice (October 1, 2020). Annual Review of Law and Social Science, Vol. 16, pp. 277-292, 2020.
[17] Quek Anderson, Dorcas. "The convergence of ADR and ODR within the courts: The impact onaccess to justice". (2019). Civil Justice Quarterly. 38, (1), 126-143.

particularly with respect to the civil justice system, in search of a more mediatory approach to dispute settlement. It became common practice in these jurisdictions for judges to undertake pre-trial case management and encourage ADR. While ADR has the potential to increase access to justice by decreasing the time and cost of litigation, it is also in danger of being exploited to coerce vulnerable litigants into settlement, if made mandatory. This would then also undermine the conciliatory nature of mediation.

ODR emerged from use in minor e-commerce disputes, to tiered and modular systems like the Online Solutions Court (OSC) in England and Wales and British Columbia's Civil Resolution Tribunal (CRT). These systems are arranged to move through a sequence of processes for each case, from dispute avoidance at the start, to dispute containment through ADR, and finally to dispute resolution through ODR. Hence, ODR has become infused with ADR within the courts, with technology and software being viewed a "fourth party" in a dispute, which has both displaced and added to the courts' existing functions. While this convergence between ADR and ODR has brought about greater complexity in the courts, it has also reduced barriers to access to justice, like the inconvenience and cost of litigation and informational deficits. However, challenges remain with regards to procedural justice, such as litigants feeling alienated due to their lack of technological knowledge and lack of trust in these systems.

Another interesting case of ODR can be found in the Internet Courts in China. These courts use blockchain technology for preserving and solidifying electronic evidence, and try to ensure access to justice for victims of small e-commerce disputes and copyright infringements. These defendants face some unique challenges in terms of gathering and presenting evidence as all of it is on the internet where authenticity and data security is questionable. However, using blockchain technology they can prove that the evidence has not been tampered with. In 2018, the Hangzhou Internet Court made history by admitting electronic evidence stored in the blockchain, in a simple copyright infringement lawsuit, the first such instance in the world. However, while Internet Courts are more cost-effective and convenient for defendants, there are concerns regarding the quality of trials and whether litigants ultimately feel that they have been heard and understood, and have been fairly dealt with (Sung 2020).[18]

2.4 ICT and court performance

It is now a widely accepted view that ICT has made courts more accessible and efficient and has inspired greater confidence in the legal system in general.

Procopiuck (2018)[19] compares the duration of cases filed by public and private organisations in the traditional manner and in a fully electronic system, in the context of specialised judicial activities related to tax enforcement in Brazil. The author

[18] "Can Online Courts Promote Access to Justice? A Case Study of the Internet Courts in China", Huang-Chih Sung, 2020. Computer Law & Security Review 39 (105461).
[19] "Information technology and time of judgment in specialized courts: What is the impact of changing from physical to electronic processing?" - Mario Procopiuck, 2018. Government International Quarterly 35 (491-501)

conducts a survival analysis and calculates probabilistic estimates of the average time each case requires to move through the courts under the different categories of cases. He then examines whether significant differences were found in the processing times for cases brought by public and private organisations, and subsequently whether the durations of physical and electronic cases differ. The results confirm the high degree of congestion in tax enforcement cases in the Brazilian legal system, and that electronic processes and specialisation in federal courts have a relatively low impact on expediting the process and potentially resolving problems related to historical delays in justice. The institution of electronic processing was seen to have no impact on resolution speed in specialised tax enforcement cases, and electronic filing in this area only reduced the rate of congestion by 2.2 per cent. Case duration varied according to organisation, with cases filed by municipalities and supervisory councils moving quickly in comparison to cases filed by the national treasury and state-owned banks. Government cases tend to take more than a decade, on average, to pass through the courts, while for private organisations this time is approximately six years. These findings may indicate that swifter durations may depend less on organisational strategies and technological solutions, and more on amending legislation defining deadlines for appeals, eliminating excessively long periods granted for the parties and the judicial agents to act at too many moments of decision throughout the procedural flow.

Gomes, et al. (2018)[20] aim to identify and explain the effects of investment in ICT on productivity of courts in Brazil. In addition to the direct relationship between technology and judicial performance, the paper investigates the mediating and moderating effects of technology on other drivers of judicial performance, like caseload and workforce. The authors anticipate a positive relationship between caseload and court productivity based on the 'exogenous judge productivity' argument. This states that judges confronted with growing caseload pressure, adjust their productivity thereby increasing number of resolved cases. The literature also largely indicates a positive relationship between workforce and court productivity. The authors hypothesise the following: a) a positive relationship between investment in ICT and court productivity; b) investment in ICT strengthens the positive relationship between caseload and court productivity; and c) investment in ICT strengthens the positive relationship between workforce and court productivity. The authors use hierarchical linear regression and conditional analysis to analyse the data and find support for most of their hypotheses.

2.5 ICT and access to justice in India

Apart from the eCourts project, the DoJ has several other initiatives to improve access to justice through the use of ICT and monitoring of progress of court cases, which has begun to highlight the pressure of pending cases the courts are dealing with. One of these is the Tele Law Scheme (TLS) where rural citizens in need of legal advice are connected to lawyers remotely through phone or VC in Common Service Centres

[20] "Effects of investment in information and communication technologies on productivity of courts in Brazil" - Adalmir Oliveira Gomes, Simone Tiêssa Alves, Jéssica Traguetto Silva, 2018. Government International Quarterly 35 (480-490)

(CSCs) located in villages, at zero or minimal cost. NCAER conducted an evaluation of the scheme on behalf of the DoJ in 2019-20.[21]

The findings of the report show that the TLS is reaching people who are socially and economically more vulnerable. Vulnerable people in rural areas are consulting lawyers not only regarding potentially legal disputes but also if they face any issues with regard to government programmes or documents. Hence, this scheme has become an important tool for empowerment of marginal communities in areas other than legal concerns. Some notable challenges in the effectiveness of the scheme include: lack of awareness among citizens regarding the scheme, lack of motivation of Para Legal Volunteers (PLVs), infrastructural quality concerns in Common Service Centres (CSCs) and change of lawyers for the same case. These can mostly be dealt with by some investment to improve conditions at CSCs and by a closer monitoring of the work of PLVs, Village Level Entrepreneurs (VLEs) who manage the CSCs and panel lawyers. This scheme is likely to become more important in the future as it provides a feasible way for reaching those among the vulnerable sections of the society who seek access to justice, at a much larger scale than ever before.

The Civil Society Organisation, DAKSH, India has published a four part Whitepaper Series on Next Generation Platform for the Justice System,[22] which envisages a "Government as a Platform" approach for the judicial sector and outlines the legal framework and ICT implementation strategies necessary to make the vision a reality. The series emphasizes the need for a legal backing for digitisation efforts, which would enable the creation of a public platform and migration to it and provide recourse for accompanying activities. The successful implementation of such a platform would in turn depend on undertaking strategies like: a) process re-engineering such as introducing uniformity in the court processes across states; b) a modular approach where functionalities are customised for each user group including litigants, lawyers, the police, etc; c) open standards such as free to use, based on consensus of stakeholders; and d) use of well tested solutions wherever possible, instead of developing in-house applications. The series reviews the accomplishments of the eCourts project and notes that while it has been successful in the digitization of the Indian judiciary, it should be seen as an essential step towards an ideal end state, which would be the next generation public platform. The fourth paper in the series traces the development of the use of VC in the Indian judiciary through an exploration of important cases, amendments and practices and examines the architectural requirements to make virtual courts a reality in India, such as identity verification. The paper also suggests some guidelines regarding the use of VC, like ensuring optimal usage of existing infrastructure, understanding the factors which limit usage, enhancing technological functionalities and so on. This is particularly important in the wake of the Coronavirus pandemic and the order passed by the Supreme Court for adoption of VC technology in court operations and also from the point of view of ensuring greater access to justice in normal times.

[21] https://www.ncaer.org/publication_details.php?pID=318
[22]https://dakshindia.org/next-generation-justice-platform/

2.6 Summing up

This review has reinforced the importance of much needed investment in ICT in the judicial sector. The global evidence indicates that gradual scaling up of technological innovations in the courts is more successful and effective. However, it is also important to realise that technology alone cannot ensure greater voice and participation of disempowered groups, without access to supplementary resource like legal aid (Donoghue 2017).[23] Yet, there is scarce literature on the normative or social consequences of these innovations, including the notion of fairness perceived by the litigants, which needs to be addressed.

[23] "The Rise of Digital Justice: Courtroom Technology, Public Participation and Access to Justice" - Jane Donoghue, 2017. Modern Law Review 80 (6): 995-1025

Chapter 3: Methodology

The approach to the present evaluation comprises a review of the status of implementation of the scheme and an assessment of its impact on the operational performance of the courts where the scheme has been implemented. The review of implementation is based on the documentation of the present status of the implementation, in terms of the number of courts covered under the scheme and areas of operations that are facilitated by the scheme. The impact assessment is based on a brief review of the indicators of performance available from official statistics and primary data collected from various stakeholders on sample basis.

Under the eCourts project, the hardware in the sample courts, like computers/printers, was replaced/upgraded, certain new software and infrastructure was introduced and sharing of information was digitised as much as possible.

The primary data collected covers various aspects of the programme. The study envisaged collection of primary data based on a sample survey through personal interviews of the stakeholders. The Corona pandemic situation severely constrained such a survey and the method of survey had to be revised. Interviews had to be conducted using email and telephone. The prevailing conditions also led to relatively low rates of response for certain types of stakeholders, although we believe that the sample data obtained for the study reflects the performance of the project over a wide range of operational aspects of the scheme.

The key statistics collected from the documents of the scheme and the officials of the courts relate to the number of cases processed in the courts over a few years during which the scheme has been operational. The information on the expenditure of the scheme has also been summarized to highlight the resources needed to modernize the technology infrastructure of the courts.

The sample survey, helped us gather information from the respondents on the actual utilization of the technology upgradation and perceptions of its impact on the operations of the courts.

3.1 Categories of Stakeholders

The study collected information from a number of stakeholders of the project, for each sample court, as listed below:

i. Judicial Officers: they are judges in the selected courts.

ii. Court Officials: they are from different sections in the selected courts.

iii. Lawyers: practicing in the selected courts.

iv. Litigants: with cases being processed in the selected courts.

v. Central Project Coordinators (CPC): the officials of the DoJ, coordinating the implementation of the scheme.

vi. National Informatics Centre (NIC) officials: the officials from NIC associated with the design and development of software support for the scheme.

vii. Vendors: the suppliers of hardware, internet connectivity/WAN for the scheme.

viii. Staff from State Judicial Academies (SJA): employees of SJA.

ix. Staff from District Legal Services Authority (DLSA): employees of DLSA.

3.2 Sample Selection

The DoJ provided us with a list of courts covered under Phase II of the programme, for 28 states, with their status as of end of June, 2019. We combined information from here (specifically, the average proportion of functioning courts out of sanctioned in a state) with an overall infrastructure index to arrive at an index for average level of digitization of courts in each state. The states were ranked according to this index and 5 states were selected from the middle of the distribution, from different regions of the country, to ensure maximum representation. These 5 states are - Maharashtra from the West, Punjab & Haryana from the North, Karnataka from the South, West Bengal from the East and Manipur from the Northeast.

Then, from each state, 5 districts and 2 courts from each district (so a total of 10 courts per state), were selected through a method of systematic random sampling. The respondents were selected from lists provided by the DoJ for each court in the sample. The sample respondents were approached through emails, where such information was available, and with telephone calls for follow up or interviews when email contact was not possible. Nevertheless, response rates were particularly low in the case of lawyers and litigants as response to telephone calls was not successful either because the calls could not be completed or the respondents were not willing to participate in the survey. Table 3.1 gives information on the distribution of sample and response rates.

TABLE 3.1: SAMPLE SIZE AND COVERAGE

Type of Respondent	Proposed Sample	Approached	Actual Sample	Response rate (per cent)
Judicial Officer	100	165	95	57.6
Court Official	100	220	93	42.3
Lawyer	100	314	31	9.9
Litigant	100	233	32	13.7
Total	400	932	251	26.9
Number of courts	50		49	

Note*: We could not get the contact details of respondents for 1 court in our sample, in West Bengal.*
Source: NCAER Survey

Our sample comprised 14 DCs (DC) and 35 TCs (TC). The distribution of respondents by type of court is given in Table 3.2. While we tried to ensure that we contacted comparable number of respondents from each category of court, we ended up

receiving more responses from TCs. The distribution of court officials and litigants in our sample are particularly skewed towards TCs.

TABLE 3.2: DISTRIBUTION OF RESPONDENTS BY TYPE OF COURT (PER CENT)

Type of respondent	District Court	Taluka Court
Judicial officers	49.5	50.5
Court officials	29.0	71.0
Lawyers	51.6	48.4
Litigants	28.1	71.9
Total	39.4	60.6

Source: NCAER Survey

The state-wise distribution of the sample is given in Table 3.3. As can be seen, response rate from Maharashtra was particularly poor, which may be on account of the fact that it is one of the hardest hit states by the Coronavirus pandemic. The number of responses from Manipur is also quite dismal despite a higher response rate. This is because the list of contacts we had for Manipur was very small.

TABLE 3.3: RESPONSE RATES BY STATE (NUMBER OF RESPONDENTS AND PERCENTAGE OF RESPONSES OUT OF RESPONDENTS REACHED OUT)

State	Judicial officers	Court officials	Lawyers	Litigants	Total	Response Rate by State (per cent)
Karnataka	20	22	8	2	52	29.5
Maharashtra	8	15	4	13	40	15.0
West Bengal	35	12	10	7	64	34.6
Manipur	5	1	2	3	11	27.5
Punjab & Haryana	27	43	7	7	84	31.7
Total	95	93	31	32	251	26.9
Per cent response	57.6	42.3	9.9	13.7	26.9	

Source: NCAER Survey

Note: The last column and the last row provide estimates in terms of percentages and all other cells are number of respondents.

In addition, interviews of the key enabling stakeholders (categories v to ix above), were also conducted, as shown in Table 3.4.

TABLE 3.4: SAMPLE SIZE OF ENABLING STAKEHOLDERS (NUMBER OF RESPONDENTS)

Type of respondent	Target	Actual Sample
Central Project Coordinators	5	5
NIC officials	5	2
Vendors	5	2
SJA staff	5	1
DLSA staff	5	1
Total	25	11

Source: NCAER Survey

3.3 Questionnaires

We designed structured questionnaires for each of the 9 categories of respondents. Some of the key aspects covered in the questionnaires include the following:

- Awareness regarding the project among litigants, who may not be directly impacted by the infrastructure developed under the scheme but indirectly benefitted by the impact of the scheme on the operations of the court.
- Availability of the various ICT facilities of the project.
- Frequency of use of the various ICT facilities of the project.
- Ease of use of the various ICT facilities of the project.
- Capacity building measures in the form of trainings for the stakeholders.
- Satisfaction with the various ICT facilities provided under the project.
- Challenges faced by CPCs.
- Grievance resolution and monitoring of the implementation of the scheme by CPCs.
- Perceptions of stakeholders on impact of the project on pendency, time and cost of litigation.
- Suggestions for improvement of the project.

3.4 Data Collection

The Coronavirus pandemic presented some unique challenges for undertaking the primary survey. With majority of courts functioning remotely and the risks of contagion, a physical face-to-face survey, which was the initial plan, was ruled out and a digital/telephone mode was adopted.

Pilot Survey:

We pretested the questionnaires to refine them further, by conducting a telephonic pilot survey in the states of Punjab and Haryana, in the month of October, 2020. We covered 14 respondents and the exercise was very useful. Based on the feedback, several questions were reconstructed and modified.

One of the important findings from the pilot was that there are significant gaps in the in the awareness and use of services on the part of litigants. It was also very difficult to get responses from them, as they were not comfortable sharing their experiences,

despite assurances that we would not be asking about their personal case details. These problems were also faced in the main survey.

Main Survey:

The full survey was conducted between 15th and 31st of December, 2020, covering the states of Maharashtra, Karnataka, West Bengal and Manipur. The survey in Punjab and Haryana was conducted a little later, between the 15th and 24th of January 2021, based on the contact details of respondents received in early January.

For judicial officers, court officials and lawyers, a sequential mixed mode survey design was used. First an email with a brief introduction of the project and the questionnaire were sent out. This was followed with phone calls after a couple of days, firstly to check if they had seen the email and secondly, to urge them to respond. This was followed up with another gap of a few days, where we waited for the officials to send in their responses. Then a second round of calls was made to the officials who had not responded. We obtained a response rate of around 31 per cent for this group, particularly driven by responses from Judicial Officers.

A telephonic interview was conducted for the litigants, where multiple follow up calls were made, particularly to numbers which were not answered. The response rate was around 14 per cent.

In addition, the CPCs from each of these states' High Courts, NIC officials, vendors, and staff from SJA and DLSA, were also interviewed.

The survey was carried out by the NCAER research team.

***Secondary Data*:**

In addition to the primary survey, time series data on pendency, disposed and institution cases was collected for each of the sample courts with the help of the CPCs from each High Court.

3.5 Data Analysis

The responses collected from the primary survey and the secondary data were analysed both qualitatively and quantitatively, to gain insights into the workings of the programme and its impact and also to identify the drivers and challenges. A thorough literature review was also conducted simultaneously to learn about the experiences and best practices from other parts of the world.

3.6 Limitations

A few caveats with regards to the sample should be noted, as it was conducted under unusual and difficult conditions. The Coronavirus pandemic has catalysed the process of ICT adoption in many courts around the country, hence the gains from the changes

may not be visible as yet. A follow up survey after the current crisis has passed, would be beneficial to gauge whether the changes have been sustained and also about their impact. Second, this survey was conducted during the holiday season, under severe time constraints, and this may have affected the response rates, particularly of lawyers.

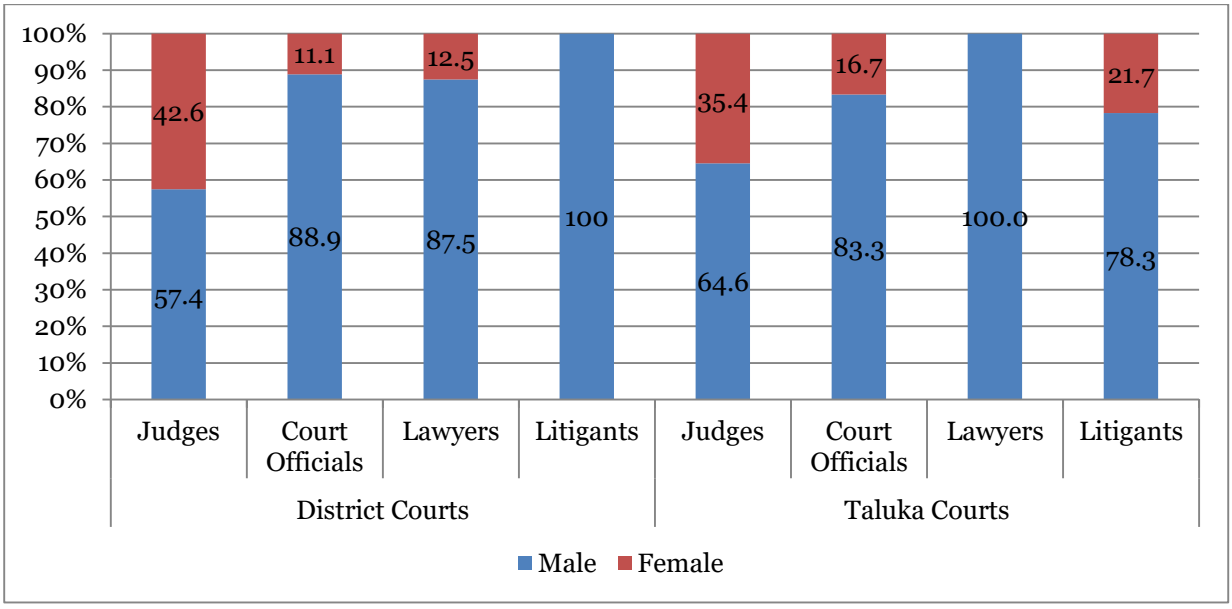
Chapter 4: Profile of Respondents

This chapter presents the respondent profiles by the two types of courts for the four main categories of respondents – judicial officers, court officials, litigants and lawyers, a sample of 251 respondents. These profiles provide insights on how the overall responses are a reflection of different categories of respondents.

4.1 Distribution of Respondents by Type of Court

Figure 4.1 presents the distribution of respondents by gender. The male respondents are predominant in all categories. Only in case of Judges the representation of females was as high as 42.6 per cent in DCs and 35.4 per cent in TCs. In fact, litigants chosen in DC and lawyers in TC were all males.

Fig. 4.1: Percentage Distribution of Respondents by Type of Court



Source: NCAER Survey

4.2 Average Age of Respondents by Type of Court

Table 4.1 presents the average age of respondents by type of Court. Interestingly, the average age for Lawyers, Court Officials and Litigants was higher in the DCs as opposed to that of TCs.

TABLE 4.1: AVERAGE AGE IN YEARS OF RESPONDENTS BY TYPE OF COURT

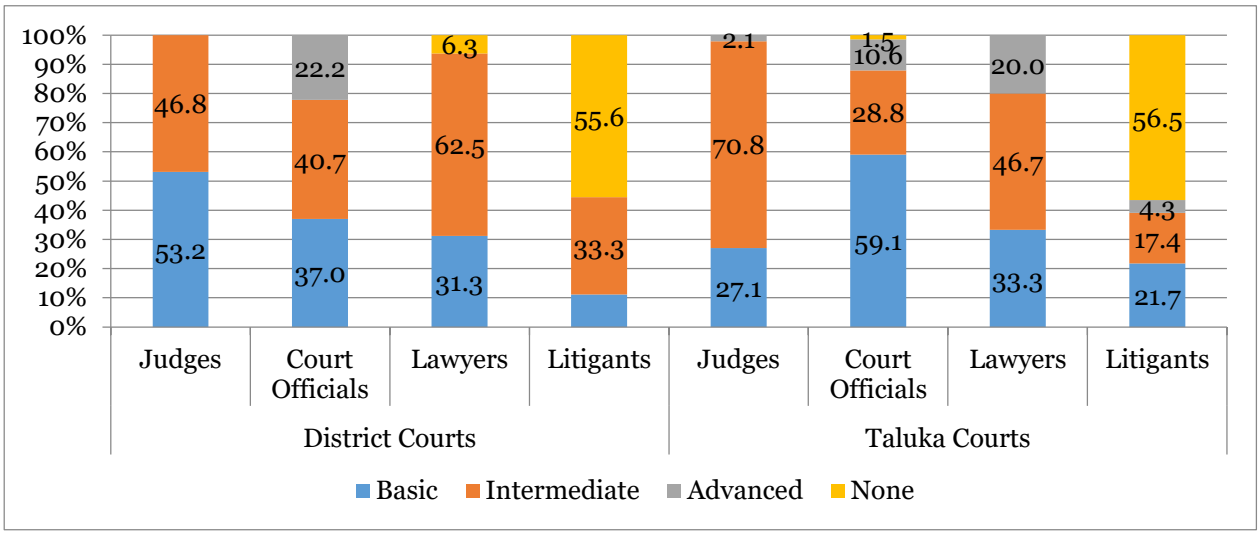
	District Courts	Taluka Courts
Lawyers	42	37
Court Officials	40	36
Litigants	47	38

Source: NCAER Survey

4.3 Computer Literacy of Respondents

Computer literacy is one of the key parameters that needs examination with respect the evaluation of eCourts project. The litigants were asked in which category[24] of computer literacy they would place themselves. Figure 4.2 presents the distribution of all the respondents by levels of computer literacy. All Judges have at least a basic level of computer knowledge. In fact, 46.8 per cent of them in DCs and 70.8 per cent in TCs have intermediate level of computer literacy. In case of Court Officials, 22.2 per cent in DCs and 10.6 per cent in TCs have advanced level of computer literacy. The perturbing finding, however, was that 6.3 per cent of DC lawyers, 33.3 per cent of DC litigants and 41.2 per cent of TC litigants had no computer literacy. In order to avail of the facilities that come with eCourts, proficiency in the use of computers would be crucial for the success of the programme.

Figure 4.2: Level of Computer Literacy of Respondents by Type of Court (percentage of respondents)



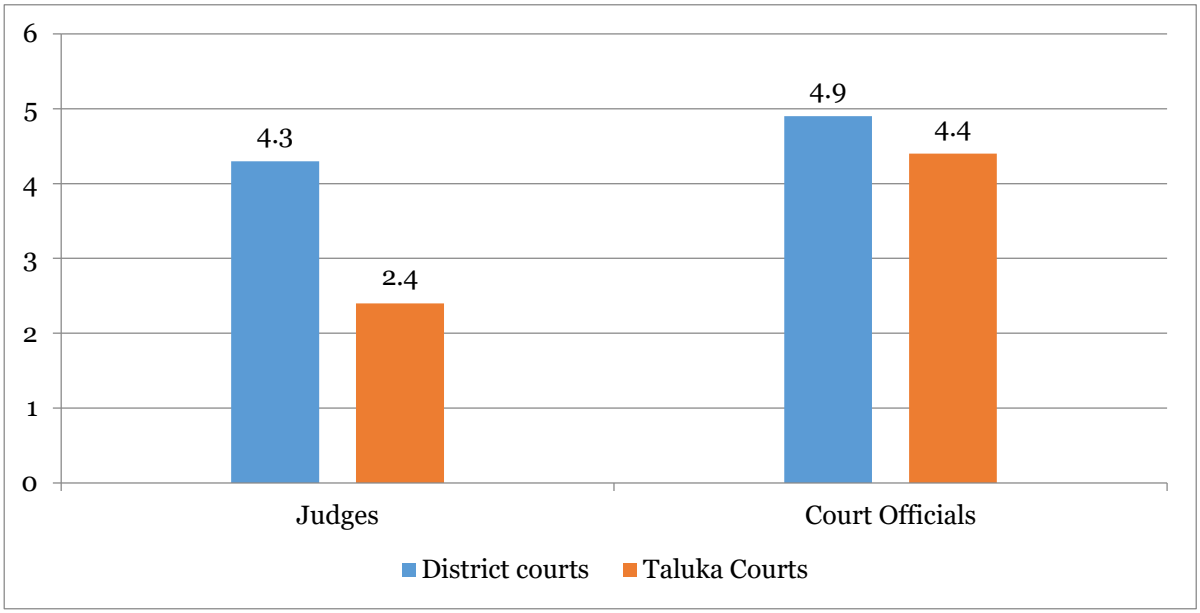
Source: NCAER Survey

[24] Basic (fundamental skills like using the mouse, typing documents, entering data, etc); Intermediate (basic to advanced computing and applications, internet browsing, etc); Advanced (Proficient Computing, Applications, and Programming); and None.

4.4 Average years of Association with Court

Figure 4.3 reveals that the judges interviewed were associated with the DCs for about 4.3 years on an average and those in the TCs had been working in the same court for 2.4 years. The average years of association of the court officials was higher in DCs (4.9) compared to that of TCs (4.4).

Figure 4.3: Average years of Association with Court of Judges and Court Officials

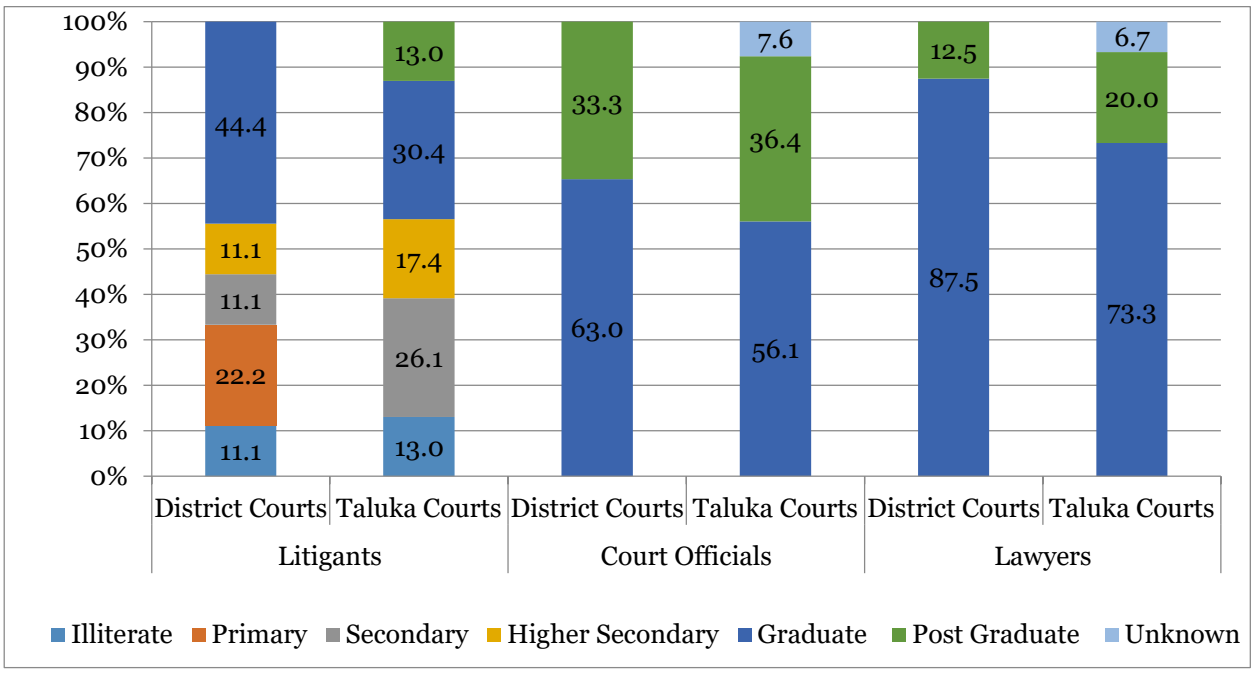


Source: NCAER Survey

4.5 Educational Profile of Respondents

Figure 4.4 shows that, among the sample litigants, 11.1 per cent of those with cases filed in DCs and 13.0 per cent in TCs are illiterate. Approximately 44 per cent of those from both DCs and TCs have some level of school education. The rest in both the courts were at graduate and/or above. The higher the level of literacy the more likely they would be to make proper use of the facilities of the eCourts. In cases of both Court Officials and Lawyers, the proportion of respondents with post graduate degrees was higher in the respondents of TCs as compared to that of DCs.

Figure 4.4: Educational Profile of Respondents (percentage distribution of respondents)



Source: NCAER Survey

4.6 Distribution of Litigants by type of cases

Figure 4.5 (4.5.1 and 4.5.2) present the distribution of the type of matters of litigants. In DCs, 55.6 per cent of the cases filed are civil matters, 33.3 per cent criminal and the remaining 11.1 per cent fall under family matters. In case of TCs the share of criminal matters are slightly higher (43.5 per cent) than those of DCs. The share of family matters is also relatively higher at 21.7 per cent. The proportion of civil matters filed in the TCs is 30.4 per cent.

Figure 4.5 Distribution of Litigants by type of cases filed in District

Figure 4.5.1: District Courts

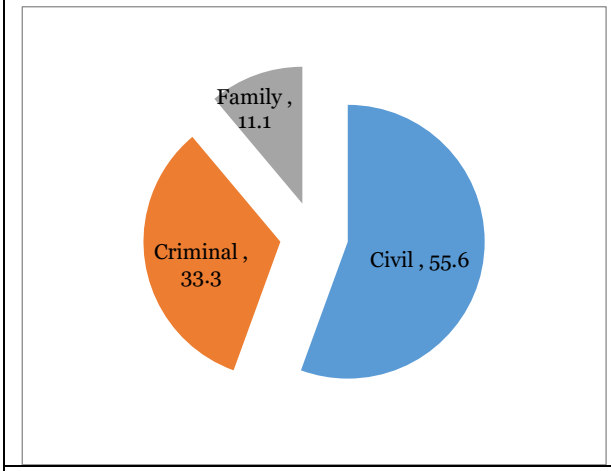
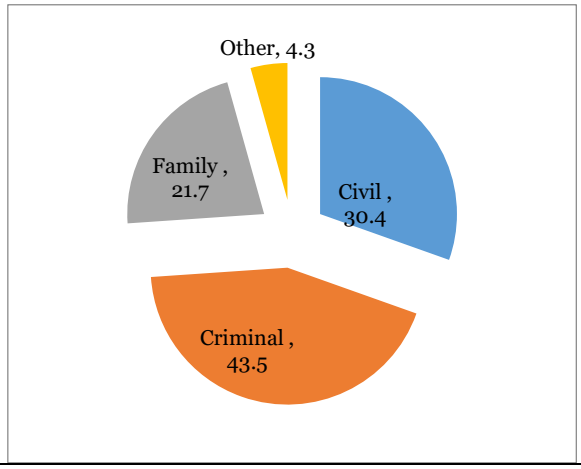


Figure 4.5.2: Taluka Courts

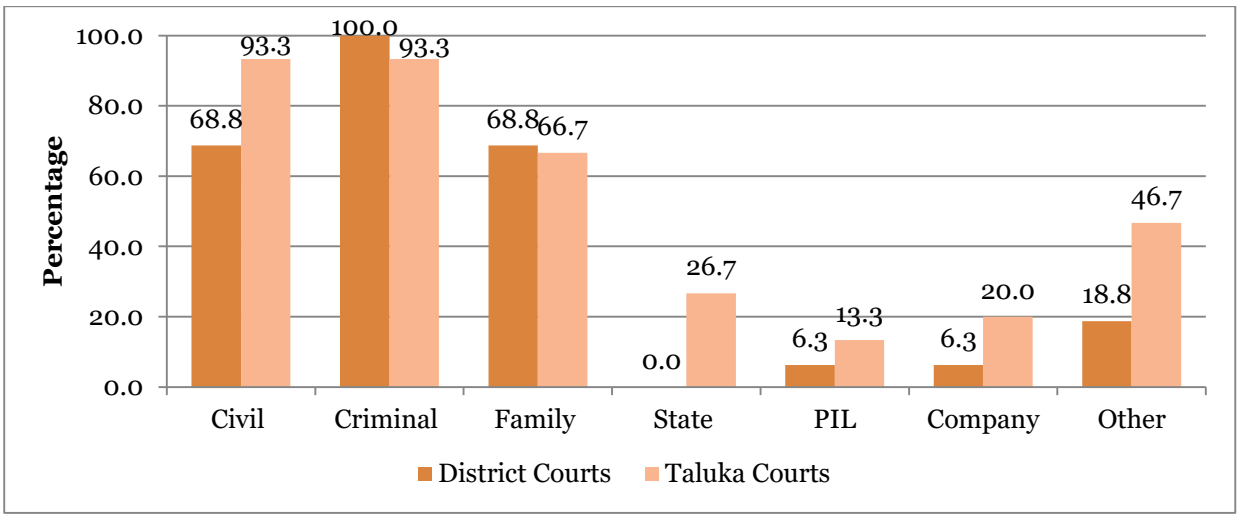


Source: NCAER Survey

4.7 Practice Areas of Lawyers

Finally, Fig. 4.6 presents the proportion of expertise available by way of lawyers in the various areas of legal practice. In DCs, 100 per cent of the lawyers have expertise in criminal matters whereas, 68.8 per cent of the lawyers practise civil and family law. About 6.3 per cent of the lawyers in the DCs have specialized in PILs, company law and 18.8 per cent in other areas. In case of TCs, more than 90 per cent of the lawyers specialize in civil and criminal law and 66.7 per cent in family law. There are also, 26.7 per cent of lawyers with experience in state matters, 20.0 per cent in company law and 13.3 per cent in PILs. Taluka Courts also have 46.7 per cent of their lawyers who can handle 'other' matters.

Figure 4.6: Percentage of lawyers with expertise in various areas



Source: NCAER Survey

4.8 Summing up

A close examination of the profiles of the respondents reveal that while most judges have intermediate level of knowledge of computers, a few court officials and lawyers and the majority of litigants, have low computer literacy, which can pose a significant challenge for deriving full benefits from the programme.

Chapter 5: Access to the eCourts programme facilities

This chapter examines the status of the provision of various facilities in the sample courts, including capacity building measures and outreach, which were the targets of the eCourts programme. Availability of key ICT infrastructure is essential for the operations of the eCourts. Hence, here we consider various aspects of access to the ICT facilities to the respondents first.

5.1 Availability of Facilities under the e-Courts Project

Under Phase II, a number of computers, printers and other hardware were upgraded. Nearly all the respondents reported that they were allotted computers. For instance, more than 90 per cent of the court officials reported that they were provided with their computers a year ago. Also, 57 per cent of the court officials (all of whom have access to computers) were provided with the machines in their own work stations. In fact, 68 per cent of the courts have their own in-house IT maintenance staff. However, the implementation of the same varied across the two types of Courts.

Court officials are involved in day to day processes like generation of cause list, daily proceedings, business, disposal and order and judgment uploading.[25] Computers have become indispensable for court operations and court staff have gradually become comfortable with the use of CIS. As there has been several upgrades to the software, it has been a challenging task to migrate the courts repeatedly. According to the findings of our study most of the subordinate courts are using CIS version 3.2 and the High Courts have migrated to National Core HC CIS 1.0.

Within DCs, 100 per cent of court officials reported having access to computers and printers. In case of VC equipment and kiosks, 96.3 per cent of court officials said they were available. Findings from respondents of TCs revealed that all the court officials were provided with a computer under eCourts Phase II. Almost 94 per cent of them had printers in their work place. Proportion of court officials reporting availability of VC equipment was 84.8 per cent of the total respondents which is much lower than that reported in DCs. About 88 per cent of the TC court officials reported having access to kiosks. Across both court types, only 9 per cent of the court officials said that printers were available with the kiosks. All of them mentioned that their courts were using CIS software. An interesting and positive finding here was that 95 per cent respondents across both types of courts said that they were using the latest version of CIS.

[25] Objectives Accomplishment Report As per Policy Action Plan Document. eCommittee, Supreme Court of India. https://cdnbbsr.s3waas.gov.in/s388ef51f0bf911e452e8dbb1d807a81ab/uploads/2020/05/2020053116.pdf

TABLE 5.1: AVAILABILITY OF FACILITIES (PERCENTAGE OF COURT OFFICIALS REPORTING AVAILABILITY)

Facilities	District courts	Taluka Courts
Hardware		
Computers	100.0	100.0
Printers	100.0	93.9
VC equipment	96.3	84.8
Kiosks	96.3	87.9
Software		
CIS	100.0	100.0
Infrastructure		
Electricity backup	100.0	84.8
Solar power	0.0	3.0

Source: NCAER Survey

Solar power back-up facilities have been implemented only in 3.0 per cent of TCs. All the DCs had electricity back-up but only 84.8 per cent of TCs had the same. Questions on waiting areas were also put to court officials and only 25 per cent said that they were available in their courts.

In addition, 235 eSeva Kendras have been set up around the country by DoJ, to cater to people with little computer knowledge (refer to Annexure Table A3).

5.2 Awareness of the e-Courts Project

The e-Courts project has various facets to it. The following section briefly discusses some of the more recent innovations and then presents the level of awareness of litigants with respect to the facilities available under this programme.

Touch screen ***kiosks*** have been set up at court complexes across the country for making information available to litigants and lawyers in a more user friendly and transparent way. Operated like an ATM, these are designed to be automated information providers, from where litigants and lawyers can view cause lists and obtain important information regarding their case by searching through their CNR number / FIR number / Registration number / Party name / Advocate name. The kiosks also come equipped with multiple language support.[26]

The ***eCourts services mobile App*** is a useful tool for accessing information on case status, cause lists, and court orders / judgments at any time and on the go. It is meant for litigants, lawyers, police, government agencies and other institutions and is freely available for download for both Android phones and IPhones. It received the Digital India Award 2018 as a revolutionary court information tool in the country. Apart from the access to case status by the usual means such as CNR number / FIR number, Party name / Advocate name, it also allows retrieval of data on cases pending by case type

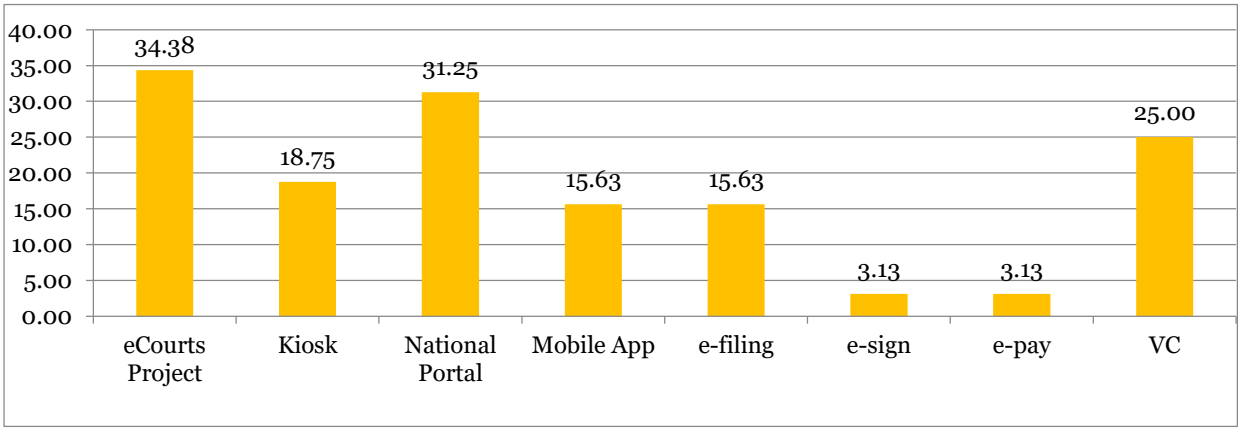
[26] Case Management through CIS 3.0, eCommittee, Supreme Court of India, 2018. https://cdnbbsr.s3waas.gov.in/s388ef51f0bf911e452e8dbb1d807a81ab/uploads/2020/08/2020082670.pdf

or relevant Act. The same services are also available on the eCourts National portal. However, an additional feature of the App is that it can be customized for a user, such that the user can get case updates via the App. It is particularly useful for litigants / institutions with multiple cases in different courts. The app now also allows access to the data available on NJDG.

The project also introduced a system for electronic submission of legal documents to the courts, called as ***e-filing***, with the aim of moving towards a paperless court structure. As of December 2020, e-filing system version 1.0 has been rolled out and versions 2.0 and 3.0 have been prepared and are undergoing testing.[27] There are two stages to the process of e-filing. First, the case is filed / documents uploaded on the ***e-filing online portal***. Practicing advocates registered with any State Bar Council or any Party-in-Person can register through the portal, to file cases before the courts which adopt this e-filing system.[28] In the second stage, the data from the online portal is consumed by the CIS, where it undergoes the usual process of scrutiny and objection / rejection / registration / allocation is done. In the e-filing portal, users have the option of ***e-signing*** the uploaded documents, by using a digital token to digitally sign pdf document or using Aadhaar. In addition, to complement the e-filing facility, the ***e-pay*** portal was introduced through which court fees, fines, penalties and judicial deposits can be paid online. The portal is user friendly and secure, and payments can be made quickly and easily through OTP authentication.[29]

One of the parameters to analyse the effectiveness of implementation of the e-Courts project is to examine the level of awareness of the litigants with regards to the facilities available. Figure 5.1 shows the findings from our survey.

Figure 5.1: Awareness of litigants (percentage of respondents who are aware)



Source: NCAER Survey

[27] Press Information Bureau, Government of India, "Department of Justice: Year End Review-2020". https://pib.gov.in/PressReleseDetailm.aspx?PRID=1684945

[28] User Manual: For High Courts & District Courts, 2018. https://efiling.ecourts.gov.in/assets/downloads/efiling-User-manual.pdf

[29] CJI Launches Applications to Facilitate Litigants and Lawyers. 23-08-2018. Ministry of Electronics & IT. https://pib.gov.in/PressReleasePage.aspx?PRID=1543677

Of all the litigants interviewed, only 34.4 per cent were aware of the e-Courts project. We also looked at their awareness of the key facilities provided under the project although they may not be aware of the project itself. The findings revealed that about 31.3 per cent of the litigants knew about the e-Courts national portal and 25.0 per cent of them were aware of the VC facility in the courts. Only 18.8 per cent of the respondents were aware of Kiosks whereas the rate (15.6 per cent) was slightly lower for the Mobile App and e-filing. Conversations with Court Officials revealed that e-filing was started in a big way mostly after the Covid-19 pandemic hit. However, 98 per cent of the Court Officials also mentioned that manual registers are still maintained. A small proportion of the litigants were aware of e-pay and e-signature as well.

5.3 Correspondence with the Courts

Litigants were also asked how they access their case records. About 90 per cent of litigants with cases in DCs did it through their lawyers whereas in case of TCs, only about 78 per cent of them did the same. About 8.7 per cent of litigants with cases in TCs reported using mobile apps and the e-Courts National Portal to keep themselves updated on the progress of their case. Although, 84 per cent of the lawyers interviewed, reported that the e-Courts National portal has details about all the cases. None of the litigants seem to be using this as a source of information/case records. This again, points more towards to the general lack of computer literacy and also awareness of different sources of information about the cases among litigants.

TABLE 5.2: PERCENTAGE OF RESPONDENTS REPORTING USE OF ELECTRONIC MEDIA FOR CORRESPONDENCE

	District Courts				Taluka Courts			
	Judges	**Court Official**	**Lawyers**	**Litigants**	**Judges**	**Court Officials**	**Lawyers**	**Litigants**
Official email id	80.9	14.8	-	-	79.2	3.0	-	-
Periodic electronic notifications from courts	76.6	29.6	-	-	85.4	45.5	-	-
Email notifications regarding case	-	-	62.5	0.0	-	-	53.3	0.0
SMS notifications regarding case	-	-	68.8	26.1	-	-	53.3	34.8

Source: NCAER Survey

Assigning official e-mail IDs were another feature of the eCourts Phase II. Relatively lower proportion of court officials (compared to judges) reported having been given official email IDs. The study also revealed that 78 per cent of judges use their official email IDs for interdepartmental communication whereas 67 per cent of the court officials use theirs for the same. Official email IDs are also used for communication

with the High Courts and Supreme Court at times by judges (62 per cent) and court officials (33 per cent). Table 5.2 shows that almost 80 per cent of the Judges in both courts have been assigned official IDs reflecting the implementation of eCourts project in a phased manner. In fact, 76.6 per cent of judges and 29.6 per cent of the court officials in DCs receive electronic notifications from the court periodically. In the TCs, the figures were 85.4 and 45.5 per cent for judges and Court officials, respectively.

Notifications about cases in particular are now sent to Lawyers and Litigants from the courts as an attempt to digitise the justice delivery process as much as possible. While none of the litigants reported having received e-mail notifications (must be noted that not many of them have very high computer literacy), 62.5 and 53.3 per cent of the lawyers in DC and TC, respectively, said that they did. However, the findings regarding SMS notifications were very different. In DCs, 68.8 per cent of Lawyers and 26.1 per cent of litigants received SMS notifications about their cases. In TCs, 53.3 per cent of Lawyers and 34.8 per cent of the litigants interviewed were updated about their cases via SMS.

5.4 Frequency of and Perceptions on Usefulness of Trainings Received under eCourts Phase II

The eCommittee ensures that the various stakeholders are trained on the various facets of the eCourts project on a periodic basis. As the Covid-19 pandemic led to officials of courts operating remotely, many training programmes have been conducted. A total of 1,67,790 persons were trained between May 2020 and December 2020 covering various states of the country (refer to Annexure Table A2). We further examined whether the officials of the courts received training in four key areas. These are – CIS, NJDG, NSTEP and hardware. In the DCs, 91.5 per cent and 96.3 per cent of judges and court officials, respectively, were trained in the CIS software. More than half of the judges and 63.0 per cent of the court Officials were given training on how to navigate the NJDG. The NSTEP application is a fairly new concept and the implementation of the same is taking place slowly. About 11 per cent of judges and 48.1 per cent of the court officials in DCs have been trained in how to use it till date. More than 63 per cent of judges and 44.4 per cent of court officials reported that they were trained in how to operate the new hardware.

The proportion of respondents in TCs that were trained in CIS was 75.0 and 87.9 per cent in cases of judges and court officials respectively. However, NJDG related training of Taluka court officials was much lower (37.9 per cent) compared to the same in DCs. The findings regarding NSTEP revealed that while only 4.2 per cent of TC judges were trained in it, 45.5 per cent of the court officials interviewed were trained in the same. Interestingly, only 28.8 per cent of court officials in TCs were trained in usage of hardware. However, it must be noted that incidence of training does not imply that the respondent did not know how to operate the same as most court officials have at least basic level of computer literacy.

TABLE 5.3: TRAININGS RECEIVED UNDER E-COURTS PHASE II

	District Courts		Taluka Courts	
	Judges	**Court Officials**	**Judges**	**Court Officials**
Training Received (percentage of total sample in each respondent category)				
CIS	91.5	96.3	75.0	87.9
NJDG	55.3	63.0	50.0	37.9
NSTEP	10.6	48.1	4.2	45.5
Hardware	63.8	44.4	56.3	28.8
Frequency of training-on a periodic basis (percentage of those trained)				
CIS	27.9	15.4	27.8	17.2
NJDG	23.1	76.5	29.2	24.0
NSTEP	20.0	69.2	100.0	6.7
Hardware	30.0	58.3	55.6	36.8
Usefulness of training (percentage of those trained)				
CIS	100.0	100.0	100.0	89.7
NJDG	96.2	100.0	100.0	96.0
NSTEP	100.0	100.0	100.0	90.0
Hardware	96.7	58.3	88.9	89.5

Source: NCAER Survey

Respondents trained were also asked about the frequency of the trainings. For instance, 27.9 per cent of the DC judges reported that they were given training in CIS on a periodic basis, while the 15.4 per cent of the court officials said the same. The proportions were similar in case of TCs in both cases. Although, a very low proportion of TC judges received training in NSTEP all of them claimed to have been trained on a periodic basis.

Almost all respondents were of the opinion that the training programmes conducted under the eCourts Phase II were very useful. The only exception was in the case of DC court officials wherein only 58.3 per cent felt that training in hardware was very useful.

5.5 Factors affecting Awareness

To examine the determinants of litigants' awareness on eCourts, a binary logistic regression model has been used.

$$\text{Awareness} = \beta_0 + \beta_1 \text{Age}_f + \beta_2 \text{Location}_f + \beta_3 \text{Inc\_band}_f + \beta_4 \text{Comp\_lit}_f + \beta_5 \text{Social\_Cat}_f + \beta_6 \text{Dist\_court}_f$$

Where:

Awareness is the binary dependent variable (Litigants aware of eCourts project =1; Litigants not aware of eCourts project = 0)

Age$_f$ = Age of litigant f

Location$_f$= Location of litigant *f* (Rural or Urban) with Urban as the reference category

Inc_band$_f$ = Income band that litigant *f* falls under (with annual household income between Rs. 1 lakh and Rs. 4 lakhs = 1; with annual household income upto Rs. 1 lakh = 0 as the reference category)

Comp_lit$_f$= Level of computer education of litigant *f* (With at least basic computer literacy=1; with No computer literacy= 0 and as reference category)

Social_Cat$_f$= Social category of litigant *f* (General or Others) with "Others" as reference category

Distance_court$_f$= Distance between court and home of litigant *f*

β_0= Constant and β_i= Coefficients of each variable

TABLE 5.4: FACTORS AFFECTING AWARENESS OF LITIGANTS ABOUT ECOURTS

Dependent Variable : Aware=1		
Explanatory Variables		**Coefficients**
Age		0.30**
Location	Ref. Cat (Urban)	
	Rural	8.63**
Income Band	Ref. Cat (Low)	
	High	0.49^{NS}
Computer literacy	Ref. Cat (None)	
	At least basic	8.01**
Social Category	Ref. Cat (Others)	
	General	5.96**
Distance from Court	Ref. Cat (Least= upto 5 kms)	
	5 – 10 kms	-2.51^{NS}
	10 – 20 kms	-0.06^{NS}
	Over 20 kms	-0.34^{NS}
Constant		-24.55**
No. of Observations		32
Pseudo R Square		0.55

Note: ** indicates significance at 5 per cent level and NS, non-significance.
Source: NCAER estimates

Examination of key factors affecting the awareness of litigants revealed that while, being located in a rural area, having some computer literacy, being of relatively higher social category had a significant positive impact on the dependent variable, whereas having higher earning and increased distance from the court complex had a non-significant impact. Interestingly, if the litigant was from a rural area, they were more likely to be aware about the eCourts project than those residing in urban areas. This may be due to the fact that litigants from the rural areas had greater need to be aware of the functioning of the courts as they may not be able to visit the courts frequently. Having some computer literacy ensures higher chances of awareness than for those

litigants who had none. Being of general or a relatively higher social category probably ensures higher social capital leading to better access to knowledge and hence about greater odds of awareness than those who were of reserved social categories. Although distance did not have a significant relationship with awareness the negative sign shows that the further a litigant was located from the court complex, the lesser would be the likelihood of them being aware of the project.

5.6 Summing up

In summary, we can say that there is high level of availability of the various components of the eCourts programme. Some of the areas where implementation is low include, solar power, official email ids for court staff and training in NSTEP. Another key area of concern is the awareness of litigants, particularly in DCs. On examining the factors influencing awareness of litigants regarding the eCourts project, the indicators found to be important include location, computer literacy and social category.

Chapter 6: Adoption of facilities by respondents

In this chapter we analyse the extent of adoption of the various facilities provided under the eCourts project, by the different categories of respondents. There may be barriers to the utilisation of a new technology even if it's available, because of lack of prior exposure to the new facilities, inadequate training or lack of opportunity to use the new facilities.

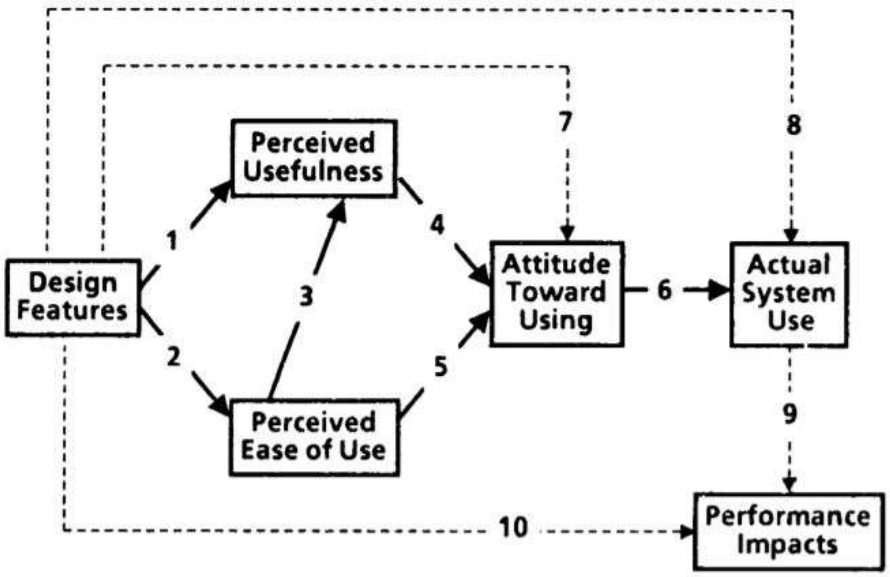
6.1 A Theory of adoption

A widely used model of IT adoption is the Technology Acceptance Model (TAM) by Davis (1986),[30] which is based on Ajzen and Fishbein's Theory of Reasoned Action (Ajzen and Fishbein 1980)[31] in social psychology. Figure 6.1 presents the model. TAM asserts that two particularly important determinants of system adoption are an individual's Perceived Usefulness (PU) and Perceived Ease of Use (PEU). Both are related to beliefs that the individuals have about the consequences of using an application. PU is the belief the individual has about the impact of the technology on his or her performance at a task, that is, it is "the degree to which a person believes that using a particular system would enhance his or her job performance". However, even if an application is perceived as useful, it may still not be used if it is deemed to be too complex to execute, as it may feel like it is not worth the effort. Hence, usage is also influenced by PEU or "the degree to which a person believes that using a particular system would be free of effort" (Davis 1989).[32] The author claims that, all else equal, higher PU and PEU are likely to make systems more acceptable and widely used.

While other authors have extended the model over time (such as the Unified theory of acceptance and use of technology (UTAUT) by Venkatesh et al. 2003[33]), the original TAM remains one of the most influential. A limitation of the model is that it was built and tested in a setting where technology adoption was voluntary, even though voluntariness was not explicitly included in the model. To model users' acceptance in mandatory environments a more complex set of beliefs may be required.[34] For instance, some studies have found that subjective norm (perceptions of behaviour being influenced by the judgment of others) becomes more important when the system use is less voluntary.

[30]Davis, F. D. (1986). "A technology acceptance model for empirically testing new end-user information systems: Theory and results." Doctoral Dissertation, MIS Sloan School of Management, Cambridge, MA.
[31]Ajzen, I., & Fishbein, M. (1980). "Understanding attitudes and predicting social behavior." Englewood Cliffs, NJ: Prentice-Hall
[32]Davis, F. D. (1989). "Perceived usefulness, perceived ease of use interface, and user acceptance of information technology." MIS Quarterly, 13, 319–340.
[33] Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. (2003). Useracceptance of information technology: Toward a unified view. MIS Quarterly, 27(3), 425–478.
[34]Al-arabiat, Mohanned, 2014. "Technology Acceptance in a mandatory environment: A test of an integrative pre-implementation model", College of Computing and Digital Media Dissertations.

Fig. 6.1: TAM Conceptual Framework



Source: Davis 1986

TAM adaptation

This model has been adapted to many contexts, to examine the acceptance and use of e-government websites, mobile wireless technology, multimedia teaching materials, learning management systems in higher education, and many others. The framework is suitable in the context of technology adoption in the judicial sector also.

Following the TAM model, we examine two measures of technology adoption, the frequency of use and the ease of use. We asked respondents who use a particular facility, how often they use it and whether they find it easy to use. Assuming that an individual would use an item more frequently only if it adds significant value to their work, this can be taken as an indicator for PU. Similarly, whether an individual reports that they find an item easy to use is a direct measure of PEU. We can look at these two measures to understand the extent of acceptability or diffusion of the features of the eCourts program and usage behaviour.

Our approach is different from the conventional use of the model in the sense that we try to track perceptions from actual usage patterns in our sample, rather than trying to predict intention to use from perceptions. Our measures capture perceptions *after* use, which is likely to be a more reliable estimate of diffusion potential of the technology.

6.2 Perceived Usefulness (PU) of facilities provided under eCourts Phase II

From Table 6.1, we observe that there is a high degree of PU for the CIS and NJDG. Around 70 per cent judges and 98 – 100 per cent court officials use the CIS very often. Almost all court officials use the NJDG very often. There is not much difference between DCs and TCs on these items.

Majority of judges also reported using the JustIS mobile app very often, particularly in the DCs. About 60 to over 90 per cent of judges and court officials use VC very often. In particular, around 95 per cent court officials in DCs report use of the facility very often.

While usage of VC of lawyers in TCs is comparable to the figures for the judges at 63 per cent, the figure for DCs is low at 29 per cent. There is also low PU for the NSTEP app for court officials, particularly in TCs, where the proportion of frequent users is about 14 per cent.

PU for eCourts Services mobile app and eCourts national portal is better in TCs than DCs, from the point of view of lawyers and litigants. In DCs, there is low to moderate proportion of frequent users, ranging from 0 to around 67 per cent. In TCs, this is moderate to high, from 58 per cent to 100 per cent.

Finally, there is low to moderate proportion of lawyers who use the e-filing and e-pay often, particularly in DCs. For instance, none of the lawyers in DCs use e-pay often. There is mostly low PU for kiosks as well.

TABLE 6.1: PERCENTAGE OF RESPONDENTS WHO USE THE SELECTED FACILITY VERY OFTEN

	District courts				Taluka Courts			
	Judges	Court Officials	Lawyers	Litigants	Judges	Court Officials	Lawyers	Litigants
1. Software / apps								
CIS	69.6	100.0			69.6	98.5		
NSTEP		66.7				14.3		
JustIS mobile app	66.7				56.7			
eCourts Services mobile app			66.7	0.0			69.2	100.0
2. Online Portals								
eCourts national portal			53.8	0.0			58.3	100.0
NJDG		100.0				98.4		
e-filing			25.0				28.6	
e-pay			0.0				50.0	
3. Hardware								
VC equipment	75.9	95.2	28.6		67.7	61.2	62.5	
Kiosks			33.3	0.0			27.3	50.0

Source: NCAER Survey

6.3 Perceived Ease of Use (PEU) of facilities provided under eCourts Phase II

Table 6.2 presents the percentage of users who find an item easy to use or PEU. Note that these percentages can be higher than those in Table 6.1 as there may be users who do not use an item frequently but find it easy to use, which would also be included in Table 6.2.

Here we find that PEU figures are generally less than the PU ones, suggesting that the users may need to use the facility as it is an essential process for their work.

A greater proportion of court officials from DCs find CIS easy to use than TCs, while the figure for judges is similar. Around 50 per cent of court officials in TCs find the software easy to use, despite the fact that nearly all of them use it very often. The PEU of NSTEP in TCs remains as dismal as the PU.

The PEU of the JustIS mobile app looks very good for DCs at around 87 per cent of judges reporting that they find it easy to use. The same cannot be said of the eCourts Services mobile app, where only about 50 to 60 per cent of the lawyers who use it find it easy to use.

An even lesser proportion of lawyers find the eCourts national portal easy to use, particularly in DCs, at about 46 to 50 per cent. All litigants in TCs who use the eCourts Services mobile app and the eCourts national portal, find it easy to use. The PEU of NJDG is also on the higher side.

As seen in the case of PU, there is low to moderate proportion of lawyers who find the e-filing and e-pay portals easy to use. None of the litigants who use these services finds them easy to use, though it must be noted that our sample size of litigants is very small.

A fact that particularly stands out in this table is the PEU of VCs, which is particularly low for judges, at 20 - 23 per cent reporting that they find VCs easy to use. The figure for the court officials is relatively better at around 42 to 59 per cent, but similarly dismal for the lawyers at 25 – 29 per cent. The PEU for kiosks is low to moderate for lawyers, but 100 per cent for litigants in TCs.

Finally, a relatively low proportion of judges find the digital signature easy to use, while the same is high for the court officials.

TABLE 6.2: PERCENTAGE OF RESPONDENTS WHO FIND THE FACILITY EASY TO USE

	District courts				Taluka Courts			
	Judges	Court Officials	Lawyers	Litigants	Judges	Court Officials	Lawyers	Litigants
1. Software / apps								
CIS	56.5	63.0			58.7	50.0		
NSTEP		33.3				14.3		
JustIS mobile app	86.7				63.3			
eCourts Services mobile app			53.3	0.0			61.5	100.0
2. Online Portals								
eCourts national portal			46.2	0.0			50.0	100.0
NJDG		77.8				62.5		
e-filing			37.5	0.0			28.6	0.0
e-pay			0.0	0.0			50.0	0.0
3. Hardware								
VC equipment	20.7	42.9	28.6	0.0	22.6	59.2	25.0	100.0
Kiosks			66.7	0.0			36.4	100.0
4. Other								
Digital signature	30.8	81.8	50.0	0.0	47.6	100.0	0.0	0.0

Source: NCAER Survey

6.4 Implications

The facilities of the eCourts program which exhibit a relatively high degree of both PU and PEU include: the CIS, the JustIS mobile app and the NJDG website, implying that these are the more widely accepted and adopted.

We would expect that innovations that have been around for a longer period of time are more widely accepted as they have survived the test of time. Only around 50% of the lawyers in our sample said that e-filing facility is available in their court. Out of this, around 80% of lawyers said that e-filing had started during the COVID-19 lockdown or in the last 3-4 months. This is possibly why we see a low degree of PU and PEU for e-filing and e-pay.

We went back and asked the CPCs for each state in our sample regarding the status of e-filing in their states. The High Courts of most states were in the process of approving the eCommittee model rules for e-filing, or they had already been adopted. The e-filing portal had been rolled out across DCs and TCs in all the states, but were in a nascent state of utilisation, as also reflected in our survey. Physical filing was still allowed in all the states, and enrolment or training of lawyers on the facility was going on. Automatic transfer of files from the portal to CIS had not yet been implemented. Hence, a clearer picture on the acceptability of the facility will only be available after some more time has elapsed.

However, the low PEU of VCs, particularly among judges, is a point of concern, as this technology has been around for a longer duration. This could be a reflection of need for more training or of opportunities to use.

6.5 Factors affecting Adoption

To determine the factors affecting the adoption of technology under the eCourts project, we utilize a binary logistic regression model of the following form:

$$PU_i = \alpha + \beta_1 PEU_i + \beta_2 PU\_computers_i + \beta_3 X_i + \varepsilon_i$$

Where, PU is a dummy for whether CIS / VC is used often, PEU is the a dummy for whether CIS / VC is easy to use, PU_computers is a dummy for whether the computer is used often, and X is a set of control variables (gender, number of years associated with court, level of computer literacy, trainings received, internet speed, type of court and respondent and state dummies). Subscript 'i' indicates respondent. This is based on responses of judges and court officials on common questions.

The results are given in Table 6.3. We find that the ease of use is an important determinant of the usefulness of a technology, as predicted by the TAM model. We see this both in case of adoption of CIS and VC. A higher frequency of use of computers also makes it significantly more likely that the CIS is used more frequently, but shows no effect on the use of VC. In fact, a higher level of computer literacy is more important from the point of view of utilisation of VC. This could be because low computer knowledge is also compatible with a higher frequency of usage of computers but not with more complex technologies. Adequate internet speed is positively correlated with use of both CIS and VC, but only significant in case of VC. Finally, the number of trainings received is an important determinant of PU of CIS.

TABLE 6.3: FACTORS AFFECTING ADOPTION OF TECHNOLOGY UNDER ECOURTS

	PU CIS	**PU VC**
PEU CIS	1.370**	-
PEU VC	-	1.029*
PU Computers	1.438**	-0.959
Satisfactory internet speed	0.135	0.731*
Trainings received	0.708**	-0.227
Intermediate to advanced Computer literacy	-0.713	1.486***
No. of observations	187	187
Pseudo R-squared	0.43	0.372

Source: NCAER estimates.

Note: Additional control variables include: gender, number of years associated with court, type of court and respondent and state dummies. ***, **, * indicates significance at the 1 per cent, 5 per cent, 10 per cent level, respectively.

6.6 Summing up

In summary, we have looked at the PU and PEU of the facilities of the eCourts programme, as per the TAM used in this study as a framework of analysis. We find that the CIS, JustIS mobile app, and the NJDG website have a large proportion of users and are mostly found to be easy to use. Hence, these are the most widely accepted and adopted. The high level usage may also reflect the essential nature of these facilities for the work of the courts. On the other hand, NSTEP exhibits both low PU and PEU. Finally, apart from ease of use, training, computer literacy and infrastructure like internet connectivity are found to be important determinants of adoption of the facilities provided under eCourts.

Chapter 7: Feedback of Respondents on the e-Facilities

This chapter highlights the feedback of the respondents on various facilities of the eCourts project. The chapter is divided into two sections. Section 1 discusses the performance of key facilities provided under eCourts. Section 2 details the levels of satisfaction of respondents on the access to and quality of some of the most important facilities provided under the project.

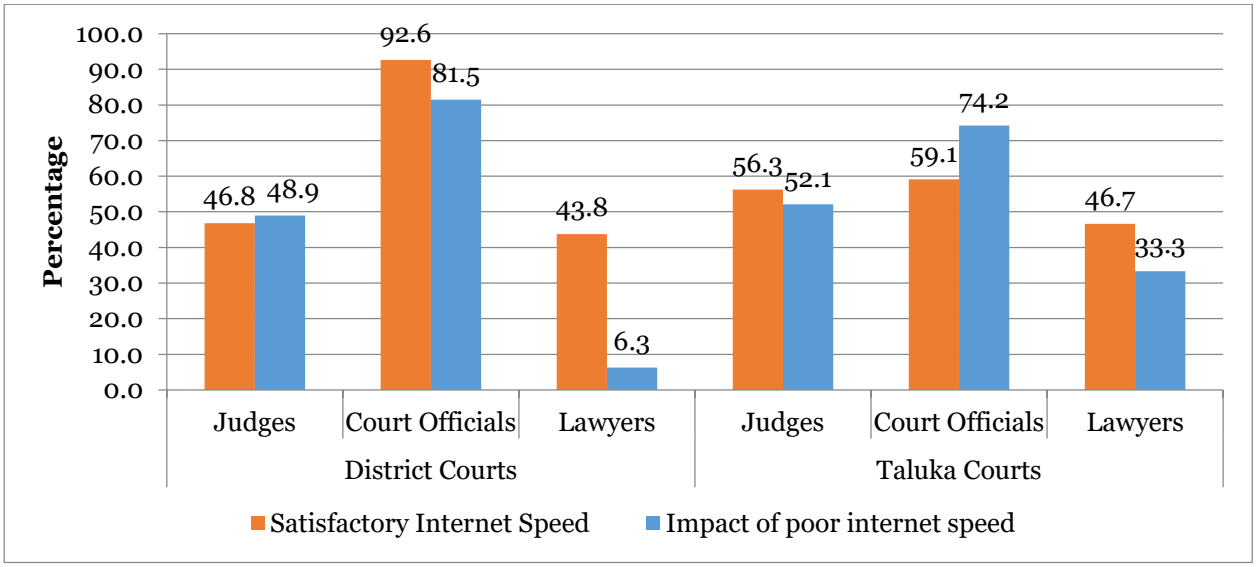
7.1 Performance of Key e-facilities

Internet speed is probably the most important factor in the implementation of the eCourts project and justice delivery via the same. Judges, court officials and lawyers were asked for their opinion on whether the internet speed was satisfactory in the court complexes and also if poor internet speed had a detrimental impact on the quality of their work.

A higher proportion of the judges (56.3 per cent) and lawyers (46.7 per cent) in TCs were of the opinion that the internet speed was quite satisfactory compared to their counterparts in the DCs (46.8 and 43.8 per cent, respectively). However, while 92.6 per cent of the court officials in DCs were satisfied with the internet speed and only 59.1 per cent of the court officials were satisfied with the internet speed in TCs. This discrepancy could be because more judges are a part of the processes (such as VC) which are dependent on the internet and likely to expose glitches in the system whereas the job profile of court officials may mostly involve activities which are not necessarily strictly dependent on the internet connectivity.

The results presented in Fig. 7.1 seem to suggest that while internet speed is generally satisfactory in the court complexes, its worsening would affect the work of the respondents. For instance, while a significantly high share of judges and lawyers in TCs was affected in case the internet speed was poor, only 6.3 per cent of the DC lawyers reported that their work was affected adversely by poor internet connectivity. This could possibly be because many respondents use their personal internet connections in situations where there is an issue with the same in the court complex.

Fig.7.1: Satisfaction and Impact of Internet speed by Type of Court

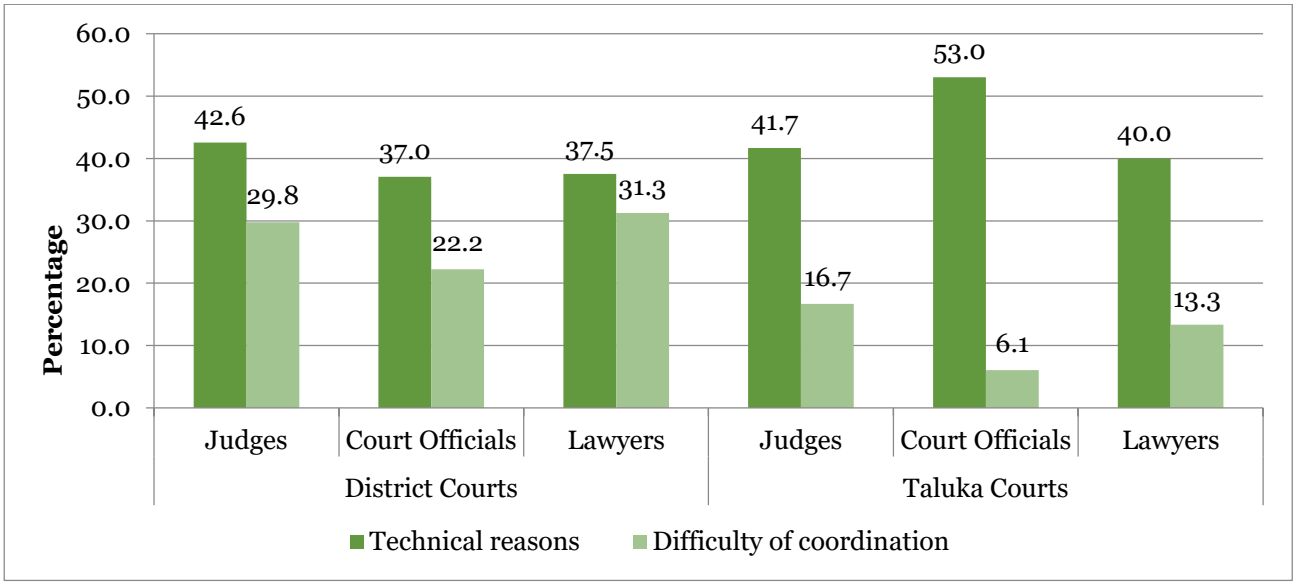


Source: NCAER Survey

We asked some of our respondents for their feedback on the experience of using the VC facility provided under the eCourts Phase II and not all of them found it user friendly or easy to use. The two major reasons cited were "technical" difficulties and "difficulty in coordination" between the parties involved. Figure 7.2 presents the feedback of the respondents by type of court. A higher proportion of the court officials and lawyers in the TCs compared to those in DCs complained of technical difficulties. The proportions of judges, court officials and lawyers facing technical issues in TCs were 42.6, 37.0 and 37.5 per cent, respectively whereas the figures for DCs in the same categories were 41.7, 53.0 and 40.0 per cent, respectively.

Almost 30 per cent of the judges in DCs and 16.7 per cent in TCs faced difficulty in coordination in conducting VCs. While the figure for the same for court officials in DCs was just 22.2 per cent, in case of TCs, it was as low as 6.1 per cent. Finally, 31.3 per cent of DC lawyers cited difficulty in coordination for not wanting to use VC but in TCs the figure was much lower at 13.3 per cent.

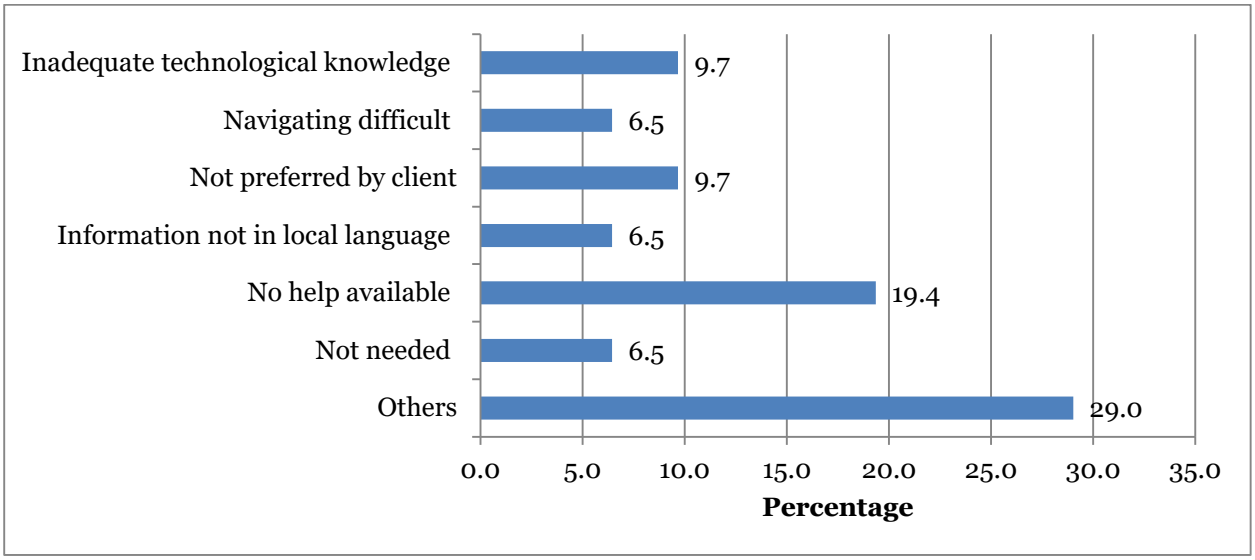
Figure 7.2: Reasons for not using Video Conferencing



Source: NCAER Survey

E-filing is one of the major benefits of the eCourts project and was introduced with the objective of increasing the ease with which a lawyer could do their paper work and also save time without having to run from pillar to post to do the same. In order to help improve the system, lawyers who do not use this facility in spite of the perceived benefits were asked why they did not do so. The findings are given in Fig. 7.3. One of the major reasons was as simple as not having help to aid the lawyers in the e-filing process. Inadequate technological knowledge and non-preference by clients were cited as reasons for not using this facility by 9.7 per cent of non-adopting lawyers. Also 6.5 per cent of the lawyers said that they found navigating through the website difficult (which may be on account of less training as some of them suggested), the information not being available in their local language served as a major deterrent and some simply did not feel the need for it. In fact, on asking litigants about their perception on e-Filing, 9.4 per cent of them were not even aware of it. Finally, 29 per cent of the non-adopting lawyers cited reasons such as the facility not having been introduced to them in their court complexes and lack of comfort in transition to a new method.

Figure 7.3: Lawyers' perception on e-Filing



Source: NCAER Survey

The eCourts project brought about three very important features viz. kiosks, eCourts National Portal and eCourts Mobile App; especially to aid litigants in availing justice in a smooth manner. However, a significant proportion of litigants are not adopting these features. The reasons and proportion of non-adopters for each of the same are presented in Table 7.1. The major reasons for not using Kiosks by litigants was lack of technological knowledge (57.1 per cent of non-adopters) and 33.3 per cent of them did not feel the need for the same. The eCourt National Portal is a good and convenient source of information about one's case status. Of those who do not use this facility, 40.9 per cent said the reason was lack of technological knowledge, 31.8 per cent were not aware of it, 18.2 per cent did not feel the need for it and 4.5 per cent found navigation of the portal difficult. Finally, litigants who did not use the mobile app to remain informed about the status of their cases said that lack of technological knowledge (38.1 per cent), lack of need (28.6 per cent) and lack of awareness (19.0 per cent) were the key reasons for not doing so.

TABLE 7.1 LITIGANTS' FEEDBACK ON SOME KEY FACILITIES PROVIDED UNDER ECOURTS PHASE II

***Reasons for non-adoption*(per cent of non-adopters)**	**Kiosk**	**eCourts National Portal**	**Mobile App**
No technological knowledge	57.1	40.9	38.1
No awareness	0.0	31.8	19.0
Navigating difficult	0.0	4.5	0.0
Not needed	33.3	18.2	28.6

Source: NCAER Survey

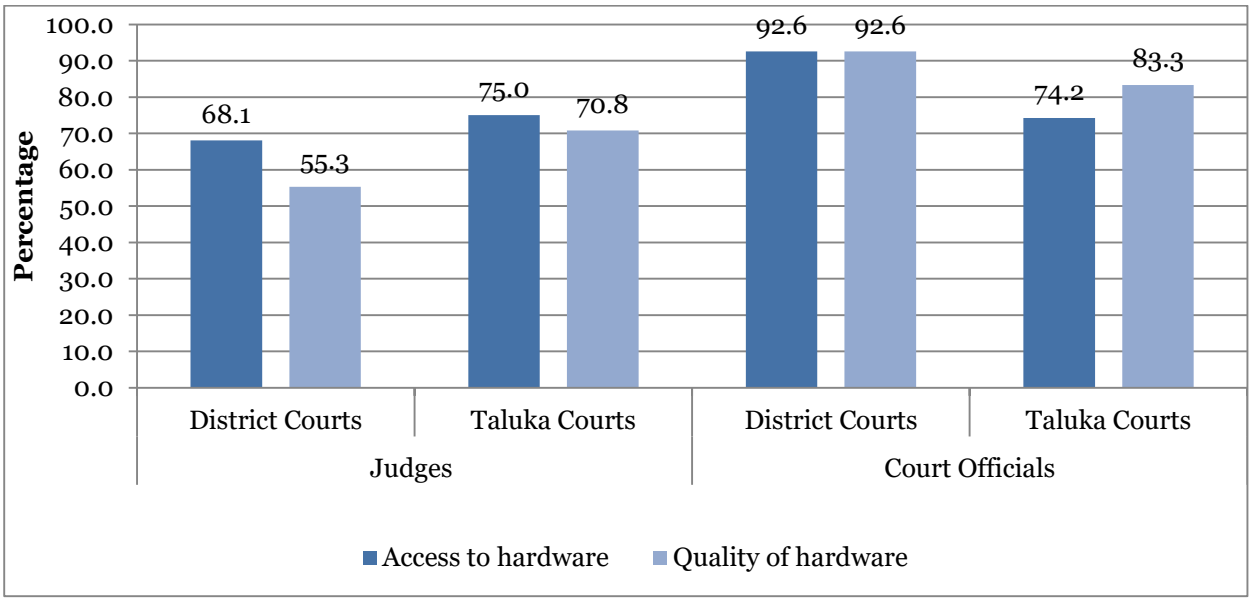
7.2 Satisfaction of Stakeholders with key Facilities

On a scale of 1 to 5 (1 being least satisfied) respondents (who adopted the facilities) were asked to rank their satisfaction with various facilities provided under the eCourts Phase II. So of the proportion of the users citing high levels of satisfaction (ranking 4 and 5) are presented below.

Figure 7.4 presents the details on satisfaction of judge and court officials on access to and quality of hardware provided to them. More than 68 per cent of judges in DCs and 75.0 per cent of the same in TCs were highly satisfied with their access to hardware. However, the proportion of judges satisfied with the quality of hardware was slightly lower in both the DCs (55.3 per cent) and TCs (70.8 per cent).

Perception of court officials on the same was slightly different than that of the judges. Equal proportion of court officials in DCs was highly satisfied with the access to and quality of hardware (92.6 per cent). While 74.2 per cent of the court officials in TCs were satisfied with their access to hardware, 83.3 per cent of them were satisfied with the quality of the same.

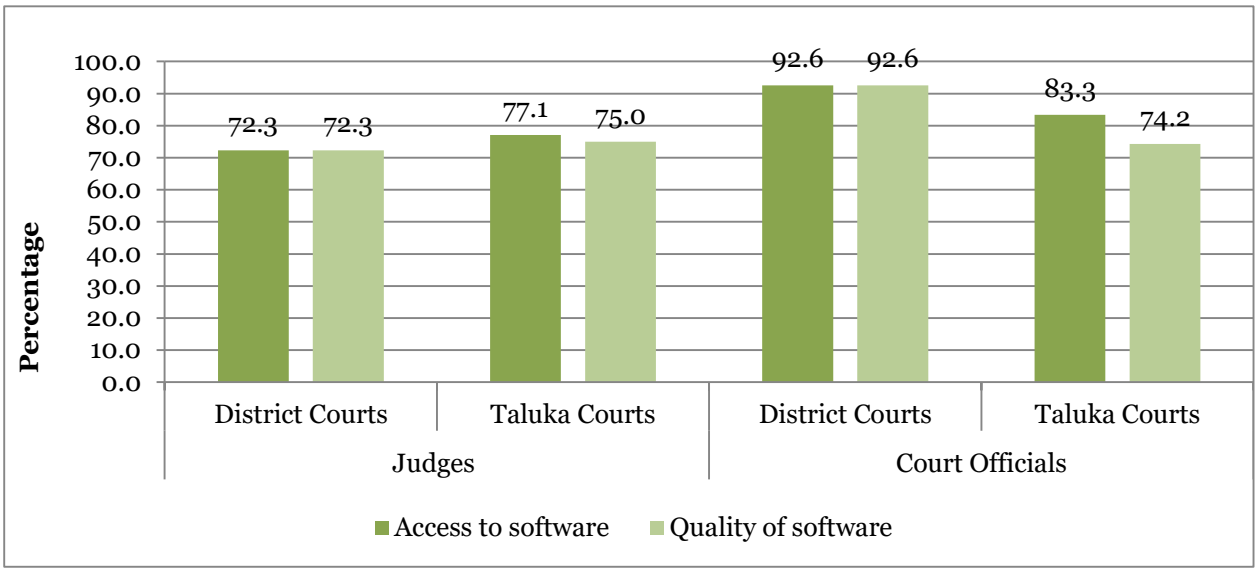
Figure 7.4: Satisfaction with hardware by type of Court (percentage of adopting respondents)



Source: NCAER Survey

In cases of satisfaction with access to and quality of software (for the purpose of this study, we mean CIS) in DCs, the proportions were equal for respondent categories, judges (72.3 per cent) and court officials (92.6 per cent). In case of TCs, while 77.1 per cent of judges and 83.3 per cent of the court officials were highly satisfied with their access to software, the proportion of both respondents satisfied with the quality of software available was slightly lower (75.0 and 74.2 per cent respectively).

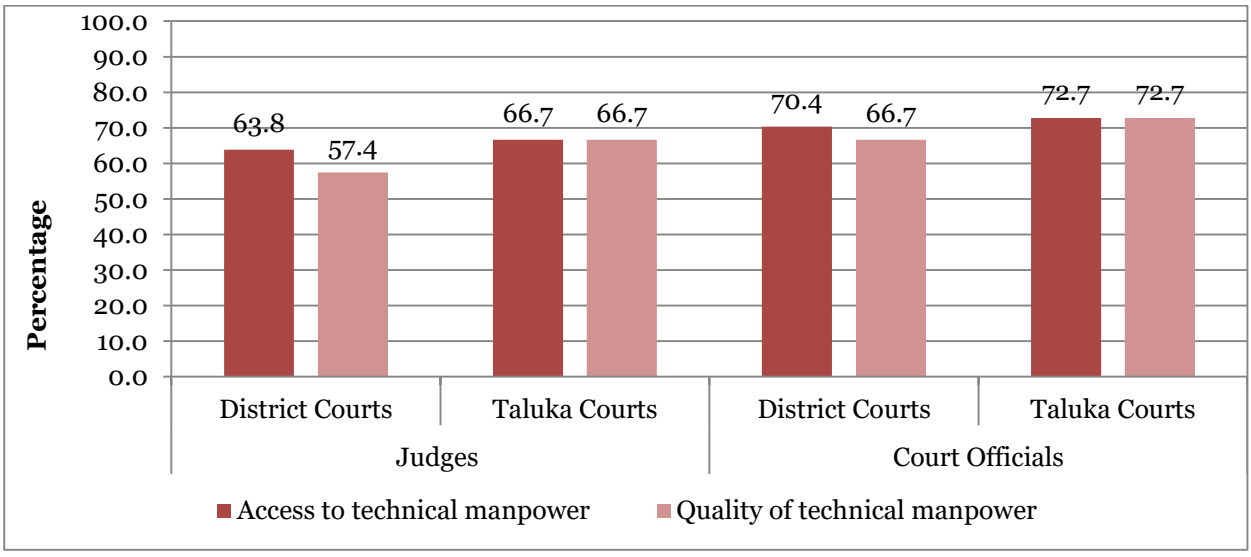
Figure 7.5: Satisfaction with software by type of Court (percentage of adopting respondents)



Source: NCAER Survey

Technical manpower plays a very important role for assistance in smooth operation of the justice delivery system. They are required in assisting the stakeholders in using the hardware and software and also solving any glitches in the system. Figure 7.6 shows that while 63.8 per cent of judges in DCs and 66.7 per cent of the same in TCs were satisfied with their access to technical manpower, the proportions of court officials citing similar levels of satisfaction in both courts were higher (70.4 and 72.7 per cent respectively). The satisfaction with the quality of manpower however, was slightly lower for both judges and court officials in DCs.

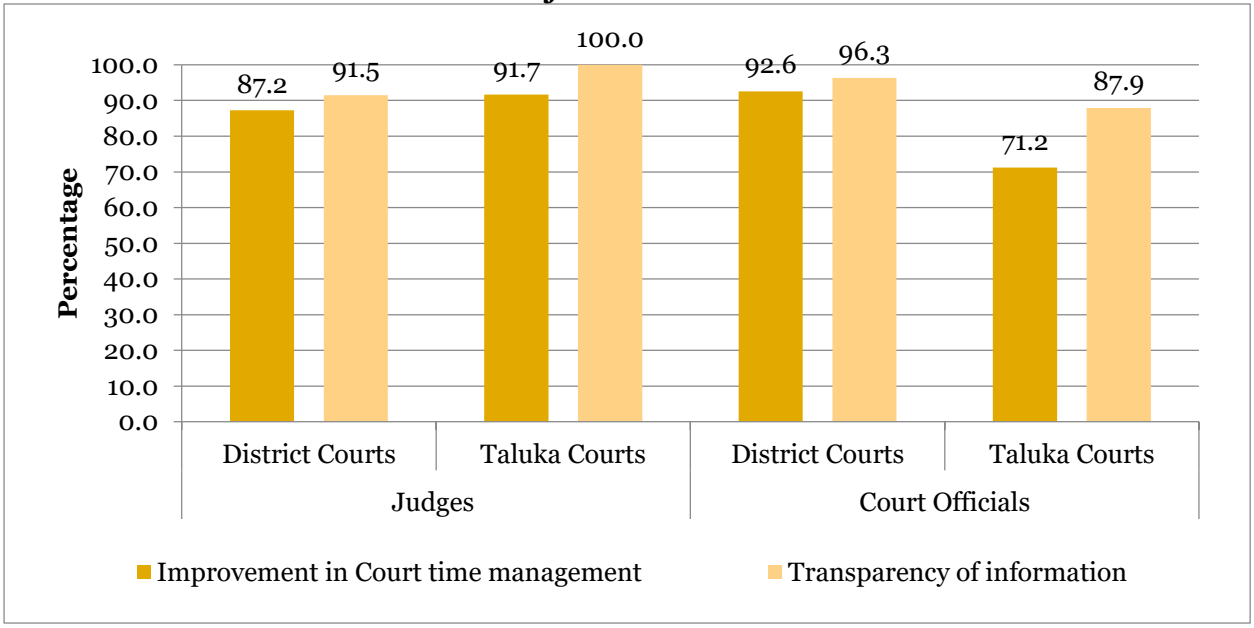
Figure 7.6: Satisfaction with technical manpower by type of Court



Source: NCAER Survey

Improvement in time management and transparency of information were cited as two of the major benefits of the eCourts (Figure 7.7). Almost 87 per cent of judges and 92.6 per cent of court officials in DCs and 91.7 per cent of judges and 71.2 per cent of court officials in TCs were highly satisfied with the improvement in the time management of the courts ever since the eCourts Phase II was implemented. Also, 91.5 per cent of judges and 96.3 per cent of court officials in DCs and 100 per cent of the judges and 87.9 per cent of court officials in TCs were highly satisfied with the transparency of information under the Phase II of this project.

Figure 7.7: Satisfaction with Court Time Management and Transparency of Information



Source: NCAER survey

7.3 Summing up

In summary, only 59 per cent of court officials in TCs report that internet speed is satisfactory compared to nearly 93 per cent in DCs. Most judges and court officials are satisfied with the various facets of the eCourts programme. For judges, the improvement in court time management and transparency of information that has resulted from implementation of eCourts project is most satisfactory, while the quality of hardware and technical manpower are less so. Court officials also expressed less satisfaction with the quality of technical manpower.

Chapter 8: Impact of the eCourts Programme

In this chapter, we study the impact of the eCourts project on court performance. First, we present the perceptions from respondents on the impact of the eCourts project on pendency and other related aspects like procedural time and cost of litigation. Then we explore actual impacts of the project on measures of efficiency and quality of judicial systems like clearance rates.

8.1 Perceptions on impact

We asked the judges, court officials and lawyers about their opinions on whether the eCourts project has reduced the pendency of cases in the courts and how. Table 8.1 gives the distribution of their responses.

While majority of judges and court officials feel that eCourts has reduced pendency, lawyers are a little more muted in their responses. For instance, while in DCs, about 85 per cent judges, 96 per cent court officials responded positively on this point, only 25 per cent of lawyers agreed. One of the most popular reasons due to which pendency has been reduced through the project appears to be "*Availability of case law in a central location leads to speedy research*" and "*Templates save time in drafting of judgments, order, etc.*"

TABLE 8.1: PERCEPTIONS REGARDING IMPACT ON PENDENCY (PERCENTAGE OF RESPONDENTS)

	District courts			Taluka Courts		
	Judges	**Court Officials**	**Lawyers**	**Judges**	**Court Officials**	**Lawyers**
Reduced pendency	85.1	96.3	25.0	87.5	72.7	40.0
How?						
Templates save time	52.5	61.5	25.0	61.9	41.7	83.3
Speedy research	57.5	46.2	75.0	66.7	39.6	50.0
Speedy review	42.5	26.9	50.0	45.2	22.9	50.0
Ease of sharing	22.5	65.4	25.0	28.6	16.7	50.0

Source: NCAER Survey

Next, we asked the same three categories of respondents about their perspectives on other impacts of eCourts, like increase in the number of petitions filed, reduction in time to resolve cases and the cost of litigation. Their responses are presented in Table 8.2.

Very few of the respondents felt that eCourts has led to more cases being filed in the courts. For instance, a meagre 6 per cent of judges in TCs and 6 per cent of lawyers in DCs responded positively on this point. A large proportion of respondents, however, felt that the project has reduced the time taken to resolve cases. For instance, around 89 per cent of court officials felt this to be the case. Majority of respondents also believe this holds for all case types. The responses regarding the impact on cost of litigation is

also largely positive. For instance, almost 93 per cent of court officials in DCs and 71 per cent of judges in TCs feel that eCourts has reduced the cost of litigation.

TABLE 8.2: PERCEPTIONS REGARDING OTHER IMPACTS (PERCENTAGE OF RESPONDENTS)

	District courts			Taluka Courts		
	Judges	**Court Officials**	**Lawyers**	**Judges**	**Court Officials**	**Lawyers**
Increased case filing	17.0	29.6	6.3	6.3	15.2	13.3
Reduced time to settle case	70.2	88.9	56.3	79.2	59.1	66.7
- All Cases	*72.7*	*54.2*	*55.6*	*50.0*	*76.9*	*80.0*
- Certain types of cases	*27.3*	*45.8*	*44.4*	*50.0*	*23.1*	*20.0*
Reduced cost of litigation	61.7	92.6	-	70.8	53.0	-

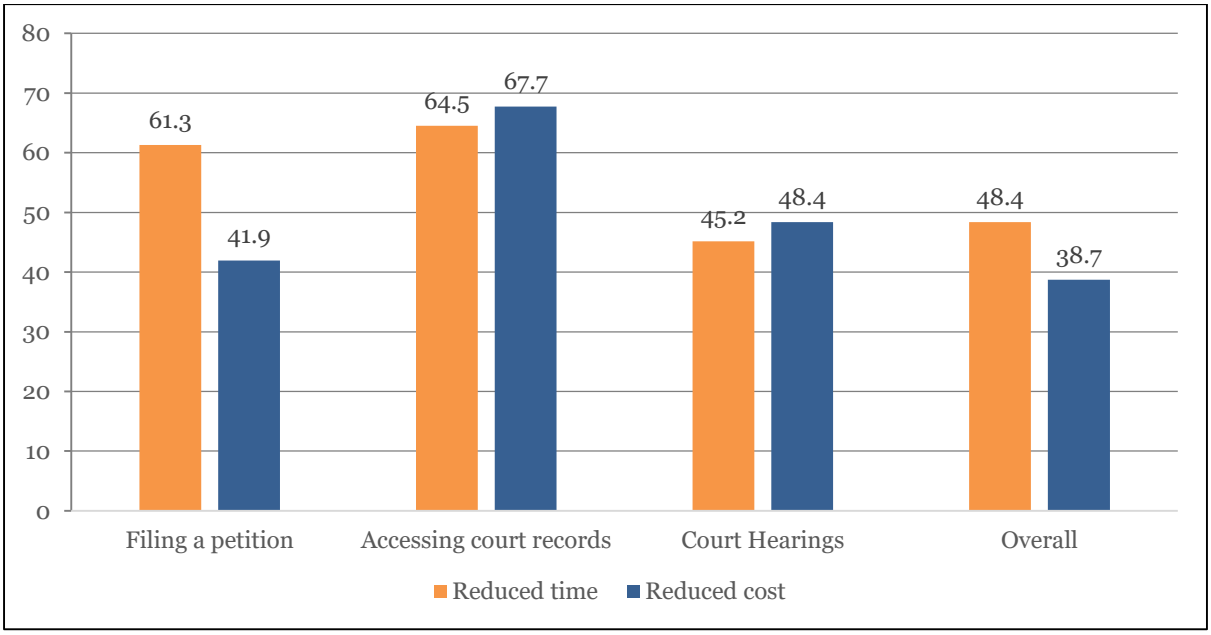
Source: NCAER Survey

Some of the specific comments regarding how the project has reduced pendency include the ease of monitoring and identifying long pending cases for disposal, the ease of tracking records and case management, the increase in accountability and faster decisions on cases due to the upload of daily orders on the CIS. One respondent mentions, "*eCourts project has reduced burden of staff members like preparing cause lists, balance sheets, disposal lists and many other things manually. It resulted in sparing of time for other important work like evidence recording, issuance of process etc. Ultimately, number of ready matters has increased. Cases are not going to dormant stages. Overall efficiency and work speed is improved.*"

Some of the concerns expressed include that, while the eCourts project is "path-breaking", lack of computer literacy and proper infrastructure and maintenance restrain the project from reaching its full potential. While technology has replaced many manual court activities, the continued use of physical forms and registers has undermined the project by taking up too much time and energy of court staff. Other concerns include the requirement for more trainings for court staff and for more sensitization of lawyers and litigants regarding the project, and the belief that spending too much time in front of a computer would result in health problems.

We also asked lawyers and litigants whether they feel that eCourts Phase II has led to an improvement in the time taken to process cases and also the overall cost incurred and for three areas – filing a petition, accessing court records and with respect to court hearings. As for the time reduction, 28 per cent of litigants gave positive responses and 38 per cent gave positive response regarding cost reduction. The distribution of the lawyers' responses is shown in Fig. 8.1. Overall, most lawyers felt that the gain from eCourts has been in terms of time reduction. In terms of particular area of impact, they felt that most of the time and cost reductions have been in the case of accessing court records.

Figure 8.1: Lawyers' perspectives on cost and time impacts by process



Source: NCAER Survey

8.2 Assessment of the Impact based on Secondary Data

To study the impact of the eCourts project on court performance, we consider the following indicators of efficiency and productivity:[35]

a) **Pending cases by age**: The number of cases pending in a given year were divided into 4 groups – pending for less than 1 year (PL1Y), pending for 1 to 5 years (P15Y), pending for 5 to 10 years (P510Y) and pending for greater than 10 years (PG10Y). The lower these numbers, the greater is the court efficiency.

b) **Clearance rate (CR)**: This is the number of resolved cases in a period, expressed as a percentage of the number of incoming or institution cases in a period. This is a widely used measure of the efficiency of judicial systems around the world. A CR of 100 per cent serves as a benchmark as it implies that the judicial system is able to process as many cases as the number of new cases within a reference time period. A CR of greater than 100 per cent implies that the system is reducing the backlog of pending cases, while a CR of less than 100 per cent implies that the number of pending cases is piling up and spells trouble in the form of court congestion.

c) **Disposition time (DT)**: This is the ratio of number of pending cases at the end of a given time period to the number of resolved cases within that time period multiplied by 365. This gives the estimated number of days required to close a pending case. A lower DT is indicative of greater efficiency.

[35] Measures b and c have been adapted from CEPEJ, 2016. "European Judicial Systems: Efficiency and Quality of Justice".

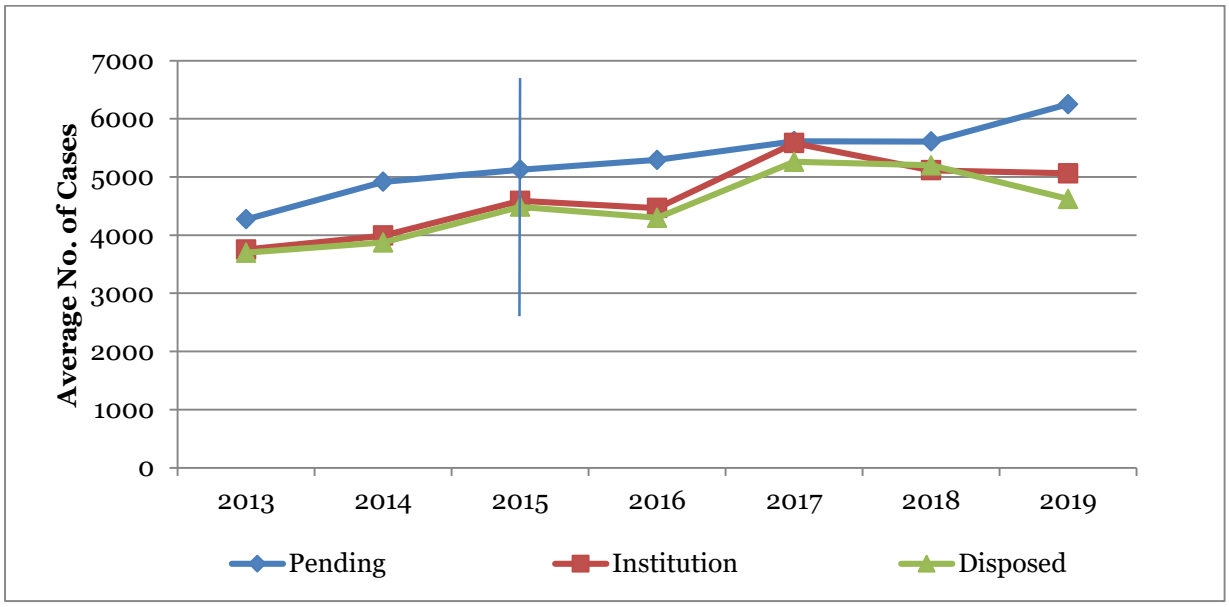
First we examine the trends of these variables in the time period from 2013 to 2019.

8.3 Trends in inflow and outflow of cases

In this section, we look at the trends in cases pending, disposed and incoming, for the courts in our sample from the 5 states surveyed.

Figure 8.2 reveals that the level and trends in institution and disposed cases have been almost equal over time. However, the average number of pending cases have remained higher than institution cases throughout the period of examination (2013-19), and exhibit a gradual upward trend. In the year 2017, the number of institution and disposed cases peaked slightly. Following this, there is a sharp increase in pending cases between 2018 and 2019.

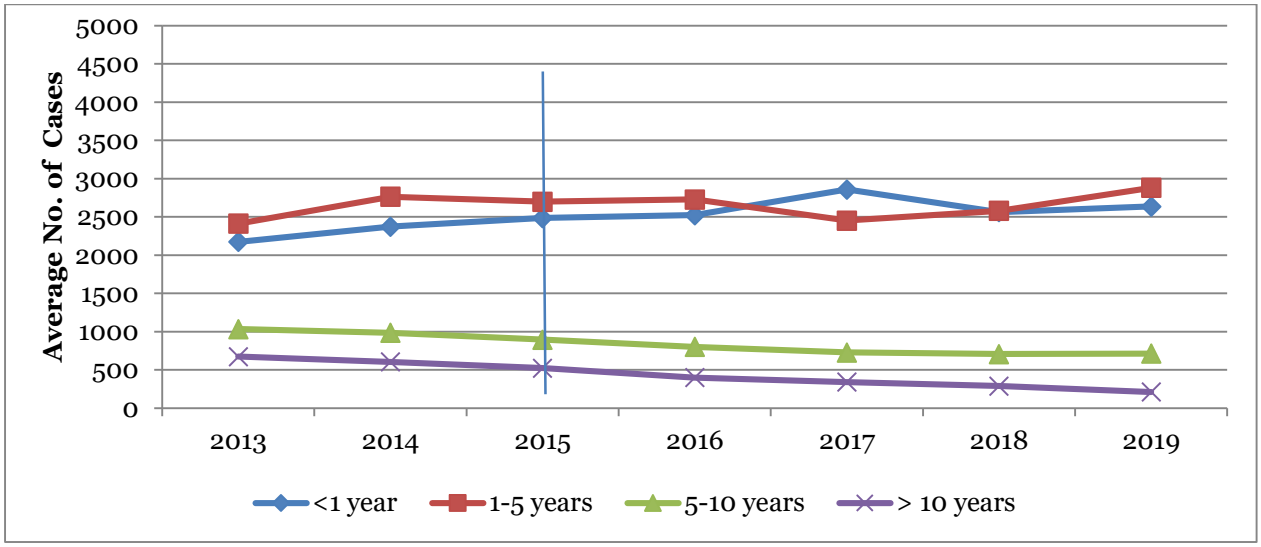
Fig. 8.2: Trends in average number of cases by status in Sample courts (2013-2019)



Source: NCAER estimations based on DoJ data

Cases pending have been categorised into those pending for less than 1 year, 1-5 years, 5 to 10 years and more than 10 years (Fig. 8.3). Cases pending for 1-5 years have remained the highest category for almost the entire period of 2013-19. There was a slight dip in the numbers in the year 2017 which increase thereafter. The cases pending for over 10 years have displayed a slow but steady decline over the years. A similar trend was observed in the cases pending for 5 to 10 years. Cases pending for less than a year have increased slightly from 2175 cases on an average in 2013 to 2637 cases in 2019.

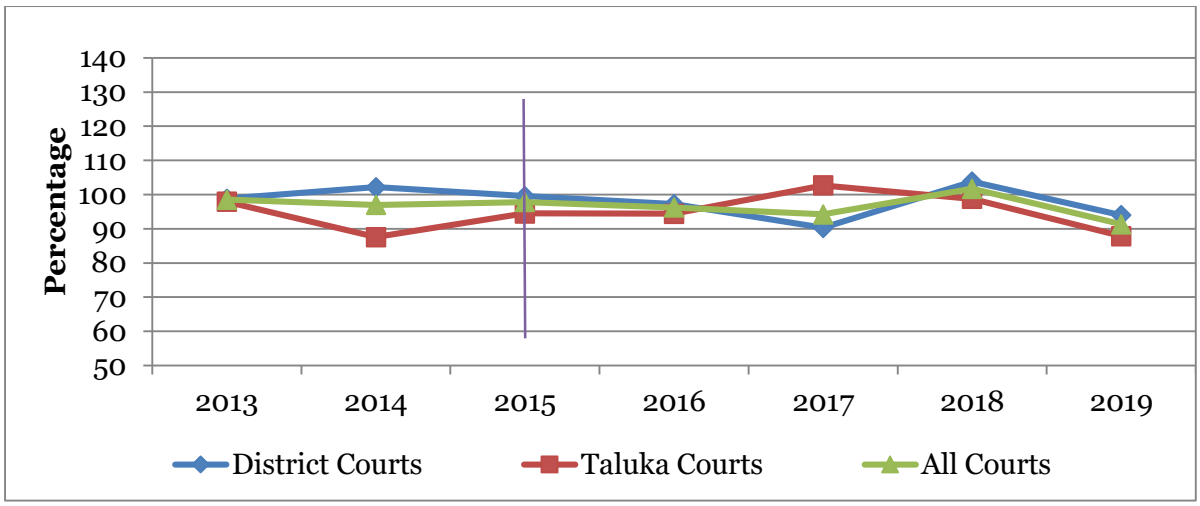
Figure 8.3 Status of Pending cases in Sample Courts



Source: NCAER estimations based on DoJ data

Figure 8.4 shows that clearance rates have remained quite steady over the years. They moved in opposite directions in DCs and TCs between 2013 and 2015 and then again between 2016and 2018. Over 2013-14 CR of TCs exhibited a decrease whereas the same in DCs increased. In the year 2015 and 2016, there was a convergence between the two. Between 2017 and 2018, there was a sharp increase in the CR of DCs. However, CR of both DCs and TCs experienced a fall from 2018-19. In general, CR of TCs have remained below CR of DCs.

Figure 8.4: Clearance Rates (CR) by type of Courts (2013-19)

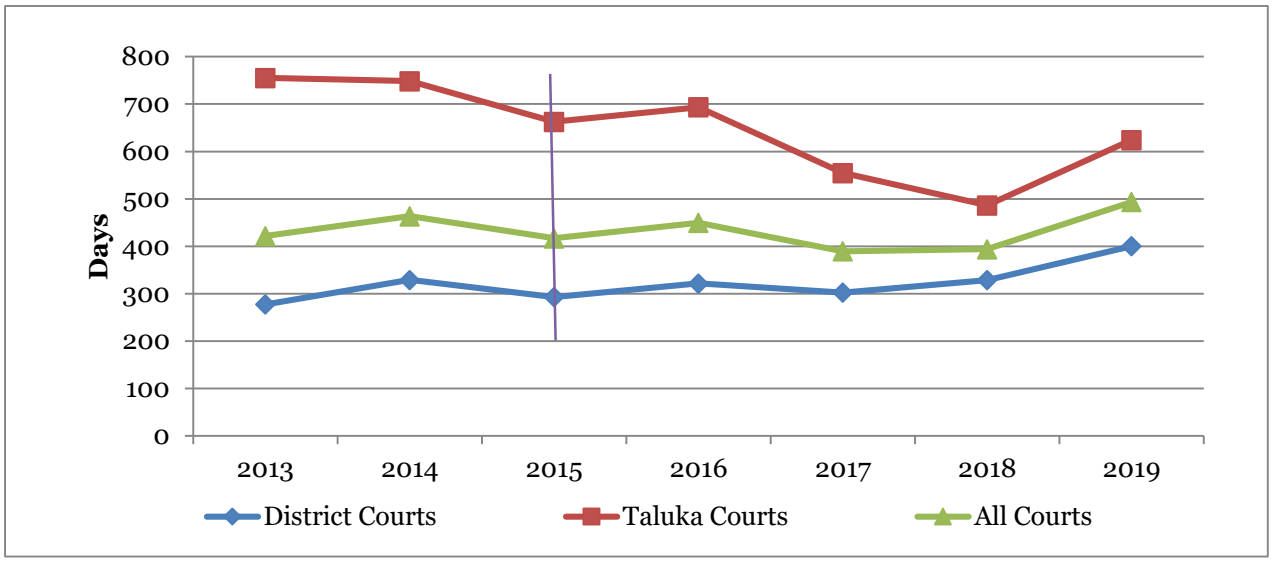


Source: NCAER estimations based on DoJ data

Figure 8.5 shows that disposition time of a case saw a marginal increase overall from 422 days in 2013 on average to 494 days in 2019 primarily driven by the trend in DCs. The disposition time in TCs shows a rapid decline between 2016 and 2018. Between

2013 and 2018, disposition time in TCs came down by almost 269 days, from above 750 days to below 500 days. Both DCs and TCs show a sharp increase in DT between 2018 and 2019.

Figure 8.5: Disposition time (DT) by type of Courts (2013-19)



Source: NCAER estimations based on DoJ data

8.4 Impact of ICT facilities: regression analysis

In this section we examine the underlying relationship between the adoption of the various ICT facilities offered under the eCourts project and court efficiency as measured by the variables outlined in previous sections of this chapter. While a large proportion of respondents in our sample have said that the eCourts project has improved court performance, this exercise is important from the point of view of validating their responses and understanding whether the project is indeed having the desired effect on courts. However, this is an analysis based on a relatively small sample of respondents and therefore should be seen as indicative.

For this part of the analysis, we combined the secondary data on pendency statistics with the data obtained from the primary survey. To do this, we first formed a single database of the responses of judges and court officials on common questions and then merged this data with the pendency dataset at court level. This generated a dataset with 174 observations. In the combined dataset, we have information on the PU of computers, CIS and VC and the PEU of CIS, VC and e-sign, from the point of view of judges and court officials.

To start off, we look at three important aspects: a) if PU or PEU is correlated with gender b) if court performance is correlated with PU/ PEU, and, c) if satisfaction with the ICT facilities is correlated with individual characteristics, PU, PEU or CR and DT.

Regarding the first point, we find that PU/PEU is consistently higher for male respondents, particularly in case of PEU of VC. Regarding court performance and PU/ PEU, we find a high negative correlation between PU of computers and cases pending for over 10 years. On the third point, we find that PEU CIS, PU of, VC and PEU of VC are positively correlated with most measures of satisfaction.

However, correlations do not indicate causality of direction but just commonality in the direction of change between two variables. On the other hand, a regression model allows us to focus on the key factors that explain court performance by controlling for others. Hence, we examine the relationship via a regression analysis in which the effect of multiple factors can be examined rather than a bivariate relationship.

We run regression models of the form:

$$Y_j = \alpha + \beta X_{ij} + \Upsilon Z_i + \varepsilon_{ij}$$

Where, Y measures efficiency of the court (number of pending cases by age, CR and DT), X is the measure of adoption (PU of computers, CIS and VC and the PEU of CIS, VC and e-sign), and Z is a set of control variables (gender, number of years associated with court, level of computer literacy, type of court and respondent and state dummies). Subscript 'j' indicates court and 'i' indicates respondent.

There was not much of an overlap between the questions asked to judges / court officials and those asked to lawyers / litigants. It was also not possible to conduct a standalone analysis on lawyers / litigants due to their small numbers. Hence, it was not possible to use their responses for this part of the analysis.

The results from the analysis are shared in the subsequent sections.

8.4.1 Impact on pendency

Table 8.3 gives the results for the impacts of PU and PEU on pendency by age. We find consistently negative and significant impacts on pendency in most cases.

For instance, the PU of computers is associated with a 0.94 per cent drop in PL1Y cases and an over 1.5 per cent drop in PG10Y cases, and these are significant at the 1 per cent level. This implies a reduction of 33 and 7 pending cases respectively, over the mean. Similarly, the PU of VCs is associated with a 0.5 per cent reduction in PL1Y cases, a 0.8 per cent reduction in P15Y cases and a 0.7 per cent reduction in PG10Y cases. This implies a reduction of 21, 40 and 3 cases respectively, over the mean. The impact of PEU is similar and ranges between 0.4 to 0.9 per cent (where significant).

TABLE 8.3: IMPACT OF TECHNOLOGY ADOPTION ON PENDENCY

	Pending for < 1 year (PL1Y)	Pending for 1 - < 5 years (P15Y)	Pending for 5 – < 10 years (P510Y)	Pending for >= 10 years (PG10Y)
PU computer	-0.940***	-0.412*	-0.816***	-1.573***
R-squared	0.63	0.65	0.644	0.78
PU CIS	0.287	0.092	0.073	0.28
R-squared	0.582	0.643	0.628	0.744

	Pending for < 1 year (PL1Y)	Pending for 1 - < 5 years (P15Y)	Pending for 5 – < 10 years (P510Y)	Pending for >= 10 years (PG10Y)
PEU CIS	-0.420***	-0.620***	-0.880***	-0.417*
R-squared	0.601	0.681	0.67	0.748
PU VC	-0.537***	-0.787***	-0.435*	-0.655**
R-squared	0.604	0.687	0.635	0.752
PEU VC	-0.615***	-0.621***	-0.709***	-0.437
R-squared	0.613	0.67	0.647	0.747
PEU e-sign	0.125	-0.324	-0.289	0.18
R-squared	0.578	0.647	0.63	0.743

Source: NCAER estimates.
Note: Dependent variable: log of the number of pending cases by age as of 2019. All regressions include the following controls: gender, number of years associated with court, level of computer literacy, type of court and respondent and state dummies. ***, **, * indicates significance at the 1 percent, 5 percent, 10 per cent level, respectively.

8.4.2 Impact on CR and DT

We would hypothesize that adoption of technology would enhance CR and reduce DT. Table 8.4 gives the results for the impact of PU and PEU on CR and DT. While the results are mostly insignificant, both statistically and in terms of magnitude, they show a mixed picture and do not always conform to expectations. However, we find two significant and relatively more precise estimates. The first is the impact of PU of computers on CR 2019. A frequent use of computers is associated with nearly a 0.2 per cent increase in the CR. The second is the impact of PU of VCs on DT 2019. A frequent use of VC facilities is associated with nearly a 0.2 per cent decrease in the DT.

TABLE 8.4: IMPACT OF TECHNOLOGY ADOPTION ON CR AND DT

	CR 2019	**CR average**	**CR growth**	**DT 2019**	**DT average**	**DT growth**
PU computer	0.149**	0.170*	0.044*	0.052	0.155*	-0.038
R-squared	0.268	0.52	0.153	0.579	0.557	0.117
PU CIS	0.001	-0.033	-0.01	-0.124	-0.053	-0.014
R-squared	0.248	0.51	0.138	0.582	0.55	0.111
PEU CIS	-0.081*	-0.003	-0.003	0.07	0.016	0.047
R-squared	0.261	0.51	0.137	0.581	0.549	0.132
PU VC	-0.098*	-0.022	0.034	-0.227**	-0.054	-0.044
R-squared	0.262	0.51	0.153	0.596	0.55	0.124

	CR 2019	CR average	CR growth	DT 2019	DT average	DT growth
PEU VC	0.001	0.058	0.001	0.159*	0.09	0.056*
R-squared	0.248	0.512	0.137	0.587	0.553	0.133
PEU e-sign	-0.040	0.133	0.02	0.179	0.166*	0.008
R-squared	0.249	0.517	0.14	0.586	0.558	0.111

Source: NCAER estimates.
Note: All regressions include the following controls: gender, number of years associated with court, level of computer literacy, type of court and respondent and state dummies. ***, **, * indicates significance at the 1 percent, 5 percent, 10 per cent level, respectively.

8.5 Summing up

We have examined the impact of the usage of the various ICT facilities under the eCourts project on the perceptions of various stakeholders and performance of courts. The results reveal that there has been a slow but steady decline in the cases pending in the courts due to the project, even though it has not been able to influence the overall measures of efficiency, CR and DT, as yet.

Chapter 9: Perspectives of Enabling Stakeholders

In this chapter we will discuss the perspectives and feedback received from five groups of respondents: Central Project Coordinators (CPCs), National Informatics Center (NIC) officials, staff from State Judicial Academy (SJA), staff from District Legal Services Authority (DLSA) and vendors. These stakeholders provide the enabling conditions for the eCourts scheme.

9.1 Central Project Coordinators

The CPCs from the High Courts in our sample had been associated with the eCourts project in their present position ranging from anywhere between 4 months to 2 years. The CPCs were involved in regular training initiatives and outreach initiatives. Most of the respondents also said that they were involved in the resolution of complaints related to various technical problems and they were also receiving queries and complaints and forwarding them to NIC Officials or BSNL / MTNL for resolution, monitoring resolutions, and following up via email. Also, Whatsapp / Telegram Groups were formed for quick resolution of the complaints. On average, 3-5 complaints are received per day and resolved within a given period of time depending on the type of complaint. They also monitor the progress of the eCourts project weekly/monthly basis and obtain regular feedback from stakeholders through emails/messages as well as regular face to face/VC meetings. Most of the CPCs said that they are actively involved in NJDG Data Mining and data mining from the eCourts website. One of them also said that they use data analytics tools and do impact analysis of the project.

9.2 NIC Officials

The NIC officials interviewed had been associated with the eCourts project in their current position between 3 to 12 years and are mainly engaged in the formulation, planning and implementation of the ICT infrastructure in eCourts. Apart from training initiatives, the officials are also involved in grievance redressal and monitoring of the project. With regards to the former, one official reported that they received around 1 or 2 complaints in a month on average for hardware related issues and around 5 to 8 in a month for software related issues. On an average, complaint resolution takes about a week or less. With regards to the latter, Judicial Knowledge Management System is used in the High Court and one of the respondent also undertook impact analysis of eCourts. The progress of eCourts project is checked by getting ecourts

status from NJDG, feedback from system officers and from daily updates sent to CPC and NIC on data uploading status.

9.3 SJA and DLSA staff

Staff from SJA and DLSA shared their perspectives/feedback regarding the eCourts project and indicated a high level of satisfaction with the access and quality of the various ICT facilities provided under the eCourts project and also the manpower recruited.

9.4 Vendors

The vendors we interviewed were selected for the eCourts project through competitive bidding. They served a significant number of courts and had a well spread network of service centres. For instance, one vendor served 800 courts including HCs, DCs and TCs.

The responses of these 5 enabling stakeholders on some key questions are summarised in Table 9.1.

TABLE 9.1: CHALLENGES OF AND FEEDBACK ON ECOURTS PHASE II

	CPC	NIC	SJA	DLSA	Vendors
Installation of hardware / software	Major upgrades like Kiosks, Projector with Screen, MPLS connectivity for sending data to NJDG, CIS, NSTEP, e-pay facility, JustIS mobile app, eCourt services mobile app and many more.	PCs, Thin clients and Printers, Linux based Open source software, CIS V3.2 in DC and CIS v 1.0 in HC.	Adequate access to computers; Printers and photocopy facilities; Average internet speed;	Adequate access to computers, printers and photocopy facilities; Average internet speed; VC implemented; Electricity back up available;	Provide hardware solutions along with internet / LAN connections;
Training and outreach	Trainings held on CIS, NJDG, NSTEP and hardware for Judicial and court staff and staff at SLSAs/DLSAs/Jails/SJAs; organised awareness campaigns for citizens;	Trainings held on CIS, NJDG, NSTEP and use of hardware for court officials, judicial officers and lawyers.	Training received on CIS, NJDG, NSTEP and use of hardware including laptops, computers and video-conferencing equipment.	No training received for hardware or software.	Provide training in the use of the equipment supplied.
Challenges	Difficulties in hardware maintenance; financial issues; access to vendors in remote locations; inadequate manpower for technical and accounting support.	Maintenance of hardware; financial constraints.	Not provided with individual official email ID, Digital signatures and JO code not yet implemented; No solar power back-up.	No in house maintenance staff; No individual official ids, JO codes and digital signatures; No solar power back up.	Cloud computing not fully implemented and/or problems in functioning; Lack of timely payments from clients affecting timely shipment.
Feedback / Perceptions of impact	Increased ease in filing cases; improved time management in courts for all types of cases; easier access to information through online portals and mobile applications; reduced case pendency.	Easier access to information through online portals and mobile applications; reduction in the time taken to complete the judicial process of a case.	Reduction in time taken for justice delivery; Reduction in cost of litigation; Adequate manpower for technical assistance.	Significant reduction in time taken for justice delivery.	Procurement of hardware and software well planned and all payments are received on time; Increased demand for hardware and software.

	CPC	NIC	SJA	DLSA	Vendors
Suggestions for improvement	Complete implementation of all modules and action plan; Creating public awareness on the e-court services; Improved internet connectivity across court complexes; Improved technical support;	Focus on online hearing and increased digitisation of case records; Proper maintenance of existing infrastructure.	-	-	-

Source: NCAER Survey

Chapter 10: Summary of Findings and Recommendations

This study provides an evaluation of the eCourt Mission Mode Projects, Phase II, based on a sample survey of its key stakeholders, covering the various components of the project and an analysis of the secondary information on the performance of the courts in terms of new cases, disposition and pending cases in the period when the project has been in operation.

The eCourts project has been under implementation since 2007 and now covers 16,845 courts. The reach of the ICT infrastructure has expanded significantly during the period since the project has been launched.

While the study provides a comprehensive view of the performance and impact of the project, execution of the study has been impacted by the extraordinary conditions that have prevailed over the last nine months, affected by the Covid 19 pandemic, which made the personal interviews with the stake holders impossible. The survey was done using emailed questionnaires in a very short period, but this has meant the response rates were relatively low. The response rate for litigants was particularly low. Response was also low in the case of Maharashtra among the larger states. However, the overall results of the study provide a comprehensive view of the impact of the project.

In this chapter we provide a summary of the findings of the study and discuss the implications for policy.

10.1 Profile of the Sample Respondents and Access to Services

Key Findings:

- From the responses provided by court officials, about 93 – 100 per cent of sample courts have provision of computers and printers and have installed CIS. The proportion of courts with kiosks and VC equipment is slightly lower at about 84 – 96 percent. While all DC courts have electricity backup facilities, none have provisions for solar power. This pattern is evident in TCs as well.

- Only around 34 per cent of litigants in our small sample were aware of the eCourts project and even lesser proportion were aware of the components of the programme. In fact, a significant majority of litigants only access their case records through their lawyers, despite having the options of the national portal and the mobile app at their disposal.

- Very few court officials have been provided with an official email id (only about 3 per cent in TCs) and use it mostly for inter-departmental communications. Communications with lawyers and litigants through email is very rare. This in itself is not a constraint so long as the official communications within the system are possible through such electronic medium to derive the full benefits of the ICT applications.

- The profiles of the respondents in our sample, based on their responses, reveal that while most judges have intermediate level of knowledge of computers, a few court officials and lawyers and the majority of litigants, have low computer literacy. The inadequate ability to use the technology can pose a significant challenge for deriving full benefits from the programme.

- While a moderate to high proportion of judges and court officials had received training in the use of CIS, NJDG and hardware, not many of these trainings were conducted on a periodic or repeated basis. Almost all respondents were of the opinion that the trainings were very useful. Periodic training sessions to upgrade the capacity of personnel to manage their operations may be considered to benefit from the technical capacity that is created. While these measures are in operation, there is a need to make them more effective.

- On examining the factors influencing awareness of litigants regarding the eCourts project, the indicators found to be important include location, computer literacy and social category.

Recommendations:

- There is a need to generate more awareness through publicity campaigns regarding the project among the general public, which would make the legal processes more efficient and provide access to more information about the cases for litigants and the lawyers.

- As benefits from increased computer literacy among the general public are not limited to access to justice alone, efforts to raise computer usage or more generally the electronic communication media may be needed from a broader policy perspective. While many eSeva Kendras have been set up around the country, the role of CSCs may also be explored in facilitating the spread of information about the judicial services and access to them, especially among the marginalised sections of the population. The CSCs- located near the courts or elsewhere would be the key points of interface for the general public and the remote services provided by the judicial system.

10.2 Adoption, Satisfaction and Feedback

Key Findings:

- The facilities of the eCourts programme which exhibit high degree of Perceived Usefulness (PU) are the CIS, JustIS mobile app, and the NJDG website. These also have high Perceived Ease of Use (PEU). Hence, these are the most widely accepted and adopted, as per the Technology Acceptance Model (TAM) used in the study as a framework of this analysis. The high level usage may also reflect the essential nature of these facilities for the work of the courts.

- National Service and Tracking of Electronic Processes (NSTEP) exhibits both low PU and PEU. This is likely because it has not been implemented across all the courts fully. However, Video Conferencing (VC) facilities exhibit a low degree of PEU despite being around for a relatively longer period of time and this is a cause for concern.

- We explored the main reason for low utilisation of VCs and found this to be mainly due to technological reasons like poor connectivity leading to unclear visuals or audio. Lack of technological knowledge is the major barrier faced by litigants in using kiosks, national portal and mobile app.

- Our survey reveals, e-filing is in a nascent stage of implementation in the sample states. One of the major reasons cited by lawyers for not using e-filing facility was inadequate help in operating the system. Other reasons mentioned include the facility not having been introduced in their court complexes and lack of comfort in transitioning to a new method.

- On examining the factors affecting adoption of CIS and VC, we find that the ease of use is an important determinant of the usefulness of a technology, as predicted by the TAM. Training, computer literacy and ICT infrastructure such as internet connectivity are also important.

- Judges are most satisfied with the improvement in court time management and transparency of information that has resulted from implementation of eCourts project. However, less than 60 per cent of the judges are satisfied with the quality of hardware and technical manpower. On the other hand, more than 70 per cent of court officials are satisfied with all the facets of the eCourts programme, except quality of technical manpower.

Recommendations:

- There should be some initiation programme into new processes introduced under the project, for facilities such as in NSTEP and e-filing to the end-users. Until the usage is fairly widespread, support in the use of these services would create more confidence among the users and a feedback by the users will help improve the services.

- Staff should be trained in operating the hardware fully and in providing adequate support specifically for handling issues related to VCs.

10.3 Impact of the project

Key Findings:

- Majority of judges and court officials feel that eCourts project has reduced pendency of cases, due to the fact that the project has eased the access to case law and this enables them to do their research faster and templates save time. The responses on whether the eCourts project has reduced time and cost of

litigation are also positive. Lawyers mention that most of the time saved and cost reductions have been in the case of accessing court records.

- On examining the trends in a few efficiency measures for the eCourts, we find that: a) the cases pending for over 5 years have displayed a slow but steady decline over the years; b) the clearance rate has stayed quite steady over the years; and c) the disposition time has declined significantly for TCs between 2013 and 2019.

- Further analysis of secondary data corroborates the perceptions of the respondents that technology adoption under the eCourts project has led to significant reduction in the number of pending cases, through the use of tools like CIS on the part of judges and court officials.

Recommendations:

- The eCourts project has created the basic infrastructure for more efficient operations of the courts. Maintaining these infrastructure services at high performance levels is critical to the success of the scheme. Training personnel at all levels in the use of new ICT infrastructure is also essential to the success of the project. While reduction in the pendency rate may not be entirely dependent on the introduction of ICT in the system, the modernisation of operations is one of the key initiatives in this sector that will complement all other initiatives.

- Increased monitoring of the progress of the eCourts project in terms of effective use of new ICT infrastructure through some measurable indicators, such as the number of hearings that take place in a specified period such as monthly or quarterly or filing of cases, the use of VC facilities, use of e-filing cases or use of facilities in CSCs.

10.4 Other perspectives

Key Findings:

- Some of the challenges faced by Central Project Coordinators (CPC) in executing their roles include inadequate manpower for technical and accounting support, and access to vendors in remote locations. Although they ultimately get the funds, some of the CPCs mentioned that it was a time consuming and tedious process. They provided several suggestions for improving the impact of the project like creating public awareness.

- NIC officials are mainly engaged in the formulation, planning and implementation of the ICT infrastructure in eCourts. They face several problems related to hardware maintenance/replacements, as there is scant monitoring and vendors often run out of parts. Some of their suggestions for

improvement include, introduction of paperless court/virtual hearings/open court (live streaming of cases).

- Both the CPCs and NIC officials felt that the eCourts Project has led to an increase in the total number of cases filed in the courts and helped with easier access to information through online portals and mobile applications, which is also corroborated by the judges in our sample.

- SJA and DLSA staff indicated a high level of satisfaction with the access and quality of the various ICT facilities provided under the eCourts project and also the manpower recruited to maintain and operate the infrastructure.

- According to the vendors spoken to, the procurement process by the DoJ is well planned and all payments are received on time. This may also be a reflection of the fact that orders are placed with vendors only when funds have been successfully arranged.

Recommendations:

- Review and streamline the financial processes to make the procurement process more efficient so that the ICT infrastructure in the eCourts is performing to its capacity.

- Improved inventory management of parts and other requirements to reduce the down time for the infrastructure services.

- Looking into the possibility of expanding the coverage of Online Dispute Resolution (ODR) for all types of cases.

10.5 Drivers and Constraints

The eCourts project has made significant leaps in ICT enablement of courts across the country. The biggest strength of the project remains the creation of a common case management and information system across courts around the country, CIS, which is also the largest Free and Open Source Software (FOSS) in the world. This has resulted in increased levels of transparency of information and eased many court processes like monitoring of pending cases, thereby saving valuable time of court staff. As we have seen, this is also one of the most widely accepted and adopted innovations of the project and has likely helped in reducing pendency of cases. The various facilities which are integrated with the CIS also provide valuable service and enable easy assimilation and exchange of digital information. For instance, the NJDG, which is home to information on around 14 crores pending and disposed cases, is an offshoot of the CIS, and is similarly popular. The study also reveals that in some cases while an innovation holds promise conceptually, it is only with time that its usefulness becomes apparent, which may be the case with the e-filing facility.

Another big strength of the project is the CPC, whose responsibility is to co-ordinate the implementation of the various tasks of the project, such as infrastructure deployment. As the CPC in each High Court is chosen from among Judicial Officers,[36] he / she is well versed in legal matters and the structure of the judicial system and can serve as an effective point of contact for information related to the functioning of the subordinate courts as they are in regular touch with them. This can prove beneficial not only for the implementers of the project, like eCommittee, but also for academic researchers / institutions looking to delve into aspects related to court efficiency and access to justice, which may lead to further innovations and developments. Indeed, the CPCs who were interviewed as a part of this project were very knowledgeable and helpful and facilitated the impact analysis in this study by providing us with the data.

However, despite the promise of the various services provided under the eCourts project in ensuring affordable and expeditious justice delivery, the project faces several constraints. As we have seen, satisfactory internet speed is an important factor in adoption of the technologies under the project and forms the backbone of the project. As of December 2020, 98 per cent of targeted court sites have been equipped with WAN connectivity. Yet, as per our survey findings, internet connectivity is a challenge in TCs as only 59 per cent of court officials report that internet speed is satisfactory compared to nearly 93 per cent of court officials in DCs. Other constraints include quality of technical manpower, low computer literacy, low awareness, and relative complexity of VC equipment, which have been mentioned above.

10.6 Overall Conclusions

The results of the study confirm that the introduction of ICT based applications and innovations into the operations of the Indian courts have helped to enhance the efficiency of these courts. The integration of the technologies into the processes of the judicial system, has been planned systematically, taking into account the many stakeholders involved and the challenges of implementing the project in diverse settings across the country. In this study, we have attempted to provide an evaluation of the Phase II of the project based on the experiences of the various stakeholders of these new initiatives.

While many of the new facilities and technology have been widely adopted by the stakeholders of the project, like the CIS, there remain challenges with the utilisation of others, particularly in the initial stages of their introduction.

The eCourts project has built in programmes of training for the judicial officers and court officials in the use of the new technologies. While there is a need for refresher training courses at all levels, there is a particular need for such training and awareness measures for the other end-users. The CSCs and eSeva Kendras need to become the central points for the litigants and lawyers both as sources of information about

[36] https://ecommitteesci.gov.in/project/brief-overview-of-e-courts-project/

accessing the court services and also obtaining services such as filing documents and payment of fees, if any.

It is also to be noted that the programme is complex, depending on a variety of technical skills, equipment, software and connectivity through tele-networks, requiring coordination at all levels. One area that appears to have been highlighted in the inputs to the study is the procurement process for equipment. Streamlining these processes should be given attention.

An important point to keep in mind is the rising trend in the use of ODR around the world. Currently ODR in India is in a very nascent stage, used mainly in e-commerce disputes. However, ODR can prove very useful in breaking barriers to access to justice by mitigating time and cost of litigation like in other parts of the world. However, pilot testing of these initiatives will help in scaling up the services.

Experiences from around the world suggest that systems which have been gradually upgraded, from handling simple specific problems to execution of more complex tasks like case management, have been the most successful and have led to a more productive use of resources. The evaluation of the current status of the eCourts project indicates that many of its facilities while absorbed by the officials involved in the court processes, are technically complex for the average stakeholder, particularly in the case of litigants and to some extent lawyers. It is to be borne in mind that the facilities are extended to sub-district level also and ensuring that the end-users are adequately informed and trained in the use of new services is critical to achieve full utilisation. The survey reveals that while trainings are conducted for court staff on the facilities used by them, the same is not true for lawyers and litigants, for whom the only recourse may be the instruction manuals, like in the case of e-filing. This may not be as effective as live demonstrations in trainings.

Finally, the results on the impact of project on pendency look promising. The benefits in terms of ability to manage the court functions better, access records and reference materials better and reduce the costs have been reported. The need for regular monitoring of the performance of the system from all perspectives is necessary to ensure full utilisation of the infrastructure.

The eCourts project is impacting the processes of the courts at the district and taluka levels. The initial experience gained will help in improving the performance of the project. This study has highlighted areas for attention to improve the performance the project.

ANNEXURE

TABLE A1: PHYSICAL ACHIEVEMENTS UNDER ECOURTS PROJECT SINCE INCEPTION

Sl. No.	Components	Sub-components	Target reached	Delivery/ Installation is going on
1	Additional hardware for 14249 courts (1+3 format), Computerization of new courts (2+6 format) and Computerization of expected courts (2+6 format)	Computer	74012	4762
		LAN	82851	11176
		Display Board Monitor	16285	2205
		Extra Monitor	16561	2390
		MFD printer	16256	2418
		Duplex printer	16599	339
		UPS for computers	51751	3708
		UPS for LAN switches	472	0
		Servers	1011	203
2	Technical Infrastructure at exiting courts complexes and new court complexes	Site preparation	248	80
		Projection with screen	2469	330
		Kiosks	3259	232
		USB hard disk	2606	518
		DG sets	2104	59
		UPS for network room	2529	100
		Justice Clock	15	4
		Smart phones for process servers/ Bailiffs	1984	
3	Installation of VC equipment in courts and jails	VC Components	2843	396
4	Installation of hardware in Judicial Academies and Training labs	Hardware for SJA	27	0
5	Computerization of DLSA and TLSC	Hardware for DLSA	652	0
		Hardware for TLSC	2257	0
6	WAN connectivity	Primary connectivity	82	
		Redundant connectivity		
7	Solar energy in 5% court complexes	Solar	146	56
8	Software Development	Number of manpower recruited	147	

TABLE A2: TRAININGS CONDUCTED BY ECOMMITTEE BETWEEN MAY – DECEMBER 2020

Sl. No.	Training Programme	Date	Trained Participants Category	No. of persons trained
1	ECT 001	23.05.2020	Judicial Officer (Master Trainers)	12
2	ECT 002	04.06.2020	Advocate of Tamil Nadu through Webinar. (Webinar reached 3173 views)	3173
3	ECT 003	13.06.2020	Advocates of Maharashtra and Goa. (Webinar reached 15,627 views)	15627
4	ECT 004	20.06.2020	Judicial Officer (Master Trainers)	28
5	ECT 005	27.06.2020	Judicial Officer (Master Trainers)	425
6	ECT 007	25.07.2020	Advocate through Direct VC-20,101; Advocate through live streaming link-51,896 (Inaugural Programme got 40,000 views.)	71997
7	ECT 008	29.08.2020	Court Staff (Master Trainers)	22
8	ECT 010	26.09.2020	Court Staff (Master Trainers)	465
9	ECT 011	30.09.2020	Technical Staff of High Court	56
10	ECT 012	26.10.2020 to 29.10.2020	Court Staff (District Judiciary)- One Court Staff from each Court	23250
11	ECT 013	23.11.2020 to 27.11.2020	Court Staff (District Judiciary)- One Court Staff from each Court	23250
12	ECT 014	07.12.2020 to 12.12.2020	Court Staff (District Judiciary)- One Court Staff from each Court	23250
13	ECT 015	04.11.2020	Technical Staff (High Court)- S3waas workshop	56
14	ECMT Tool	27.06.2020	Advocates of Delhi (Webinar reached 5,978 views)Advocates of Delhi (Webinar reached 5,978 views)	5978
15	NJDG_HC	07.12.2020	Awareness programme on NJDG for High Court Judges of Madhya Pradesh (in coordination with the Madhya Pradesh High Court)	30
16	P 1233_NJA	05.12.2020	District Judges from all over India (Through the National Judicial Academy, Bhopal)	50

17	P 1233_NJA	12.12.2020	High Court Judges (Through the National Judicial Academy, Bhopal)	50
18	P 1234_NJA	13.12.2020	High Court Judges (Through National Judicial Academy, Bhopal)	50
19	NJDG_HC	16.12.2020	Awareness programme on NJDG for High Court Judges of Patna (in coordination with the Patna High Court)	21
Total Number of Persons covered by E-Committee Training & awareness programme during May 2020 to December 2020				167790

TABLE A3: STATUS OF ESEVA KENDRAS IN THE COUNTRY

Sl. No	High Court	Number of eSK for District Court Complex	Number of eSK for High Courts and Benches	Total eSK	Capital expenditure for eSK (Rs.3.3lac per eSK)	Maintenance cost for eSK for 12 months (In lac)	Total estimated cost (In lac)
A	B	C	D	E=C+D	F=E*3.3	G	H=F+G
1	Allahabad	1	2	3	9.9	6.12	16.02
2	Andhra Pradesh	1	1	2	6.6	4.08	10.68
3	Bombay	1	4	5	16.5	10.2	26.7
4	Calcutta	1	2	3	9.9	6.12	16.02
5	Chhattisgarh	1	1	2	6.6	4.08	10.68
6	Delhi	1	1	2	6.6	4.08	10.68
7	Guwahati	123	4	127	419.1	259.08	678.18
8	Gujarat	1	1	2	6.6	4.08	10.68
9	Himachal Pradesh	1	1	2	6.6	4.08	10.68
10	Jammu and Kashmir	1	2	3	9.9	6.12	16.02
11	Jharkhand	1	1	2	6.6	4.08	10.68
12	Karnataka	1	3	4	13.2	8.16	21.36
13	Kerala	1	1	2	6.6	4.08	10.68
14	Madhya Pradesh	1	3	4	13.2	8.16	21.36
15	Madras	1	2	3	9.9	6.12	16.02
16	Manipur	15	1	16	52.8	32.64	85.44
17	Meghalaya	12	1	13	42.9	26.52	69.42