

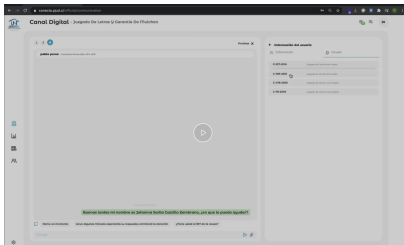
The Impact of Online Dispute Resolution on Judicial Outcomes in India

Leslie Barrett, Pranjal Chandra, Daniel L. Chen, Ritesh Das, Viknesh Nagarathinam

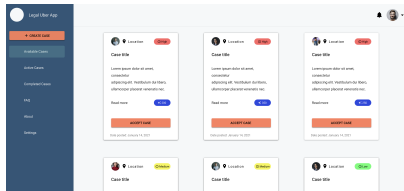
AMICUS (Analytical Metrics for Informed Courtroom Understanding and Strategy)

E-Justice Innovations

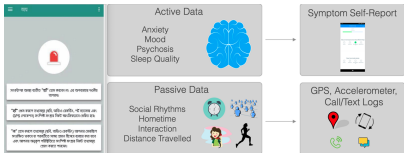
WhatsApp access to virtual courts



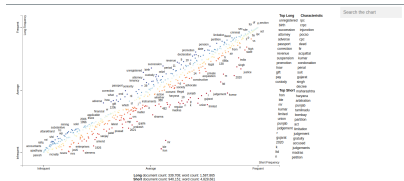
Uber-ization of case backlog



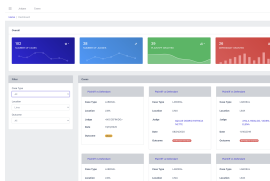
Apps for missing cases



Open access legal search engines



Personalized case-based teaching



Predicted self

Asylum Case Predictor

[Home](#) | [About](#)

State

Select a state

Attorney present?

☒ Yes ☐ No

Nationality

CHINA

Asylum type

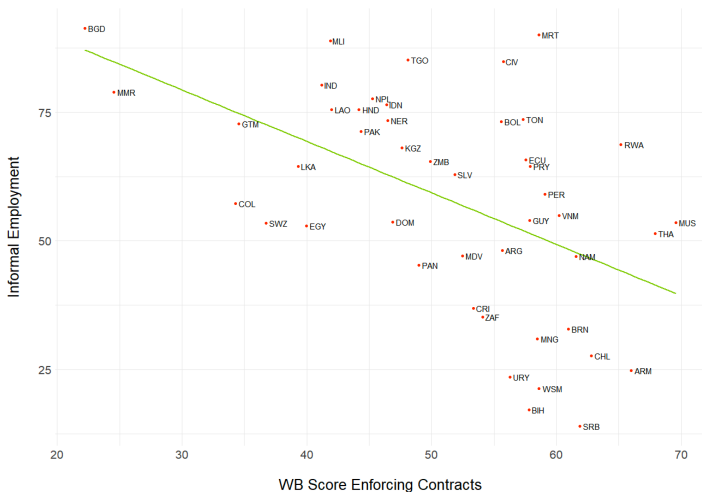
☐ Defensive ☐ Affirmative

Case Type

☐ REMOVAL
☐ ASYLUM ONLY CASE
☐ DEPORTATION

Speed of Dispute Resolution Matters for Economic Development

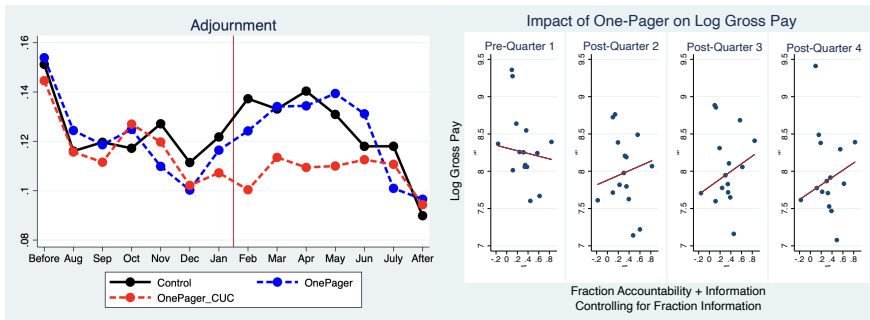
Cross-country evidence



A 20% decrease in case duration is associated with a 10% increase in GDP per capita (Penn World tables)

Speed of Dispute Resolution Matters for Economic Development

Randomized control trial evidence



A 22% decrease in case duration is associated with a 8% increase in wages per capita

AEARCTR-0006228, *Data Science for Justice: Evidence from a Nationwide Randomized Experiment in Kenya*

Online Dispute Resolution

Ministry of Law and Justice, Government of India

SAMA PLATFORM IN USE



New Delhi-Saket District



Rajasthan- Kota & Karauli

Online Dispute Resolution

SAMA has handled 20 million disputes since 2015

At Sama, we're building a better way for everyone to resolve disputes. We're reimagining access to justice as collaborative, completely online, and accessible to all.

A new justice system where disputes are resolved quickly and fairly, people are treated with respect and kindness, and holistic resolution is no longer a dream but a tangible, achievable goal.

We are an Online Dispute Resolution (ODR) platform and we enable dispute resolution services like Online Mediation, Online Arbitration, Online Lok Adalat etc.

Crunch the Numbers!

2cr+

Disputes Filed on
Sama

35L+

Disputes Resolved
on Sama

45 Days

Average Resolution
Time

India Context

- Overburdened judiciaries with large case backlogs routinely delay justice in developing countries (Djankov, Porta, Lopez-De-Silanes, Shleifer, 2003; Marciano, Malcarne and Ramello, 2019)
- This not only imposes direct constraints on those who are seeking justice but also undermines public trust in the judiciary, markets and broader institutions (Amriapu, 2021)

India's Overburdened Judiciary

- In 2018, NITI Aayog, the central government think tank of India, noted that it would take 324 years to clear the backlog of cases
- The backlog of cases has gone up by at least 20% since the pandemic began and currently stands at more than 38.9 million cases.

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MSMEs face the pressure too

- Micro, Small and Medium Enterprises (MSMEs) in India face this problem too. MSMEs in India face a credit gap of INR 25.8 trillion
- This problem is exacerbated by delayed payments to the MSMEs, further restricting their cash flow. Reports suggest between INR 3.3 to 5 trillion of MSME funds are stuck with larger enterprises in the form of receivables.

India's Approach Towards Addressing This...

- In 1982, cognizant of the rising burden on the judiciary, Alternative Dispute Resolution (ADR) was introduced.
 - ▶ Taking root in India's ancient rural legal system of Nyaya Panchayats, where respected villager elders gave rulings through informal tribunals, Lok Adalats ("People's Court") were established to provide access to free legal services outside of the formalized legal system.
- Eventually, after observing commendable performance, the Indian government passed the National Legal Services Authorities Act, conferring statutory authority to Lok Adalats, permitting transfer of pending cases from formal courts to Lok Adalats, and making Lok Adalat awards enforceable (Zainulbhai, 2016).
 - ▶ As of 30th September, 2015 more than 1.5 million Lok Adalats had been organized in the country since its inception, and more than 82.5 million cases had been settled by the mechanism.

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Online Dispute Resolution: A Possible Solution

- The pandemic catalyzed Lok Adalats. During the pandemic, in-person Lok Adalats were suspended and shifted to Online Lok Adalats.
- While Online Dispute Resolution is being celebrated for saving cost, its effectiveness, much like Alternate Dispute Resolution, remains untested via randomized control trial
 - ▶ We evaluate the impact of online dispute resolution using a chatbot
 - ▶ We assess whether the usage of AI driven bots can complement or supersede the current method of using human agents for ODR

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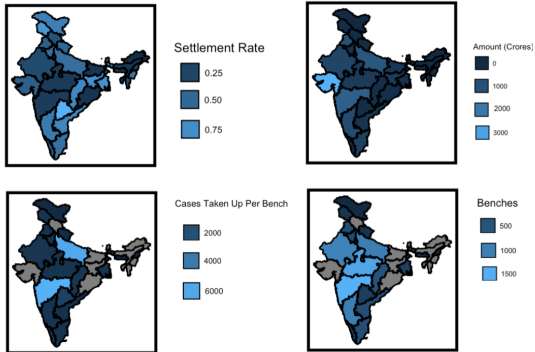
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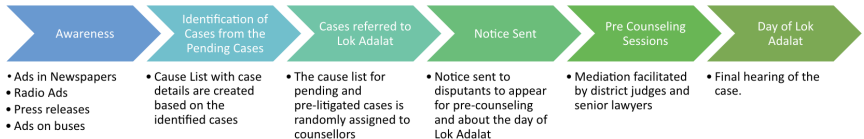
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Lok Adalat 12th March 2022 Performance Snapshot



In the most recent Lok Adalat, on 12th March, 2022, more than 21.8 million cases were taken up across more than 9,500 judicial benches. 7,795,356 cases were settled for a total settlement amount of INR 135.40 billion (USD 1.79 billion). The overall settlement rate was 35%.

Stages of Lok Adalat



Case Type Handled in Lok Adalat

- Land Acquisition Cases
- Banking Matters under section 138 of Negotiable Instruments Act
- Traffic, Petty Matters and Municipal Matters
- Labour and Family Disputes
- MACT and Insurance Claim Cases
- Electricity, Water, Telephone and Public Utility Disputes

Chatbot to resolve traffic violation disputes online

- In a Lok Adalat held on 12th March 2022, Sama managed more than 5.3 million traffic violations cases across 37 districts of Maharashtra.
 - ▶ Sama achieved a settlement rate of 18% and recovered INR 710 billion
 - ▶ Sama makes use of a WhatsApp FAQ feature to help guide users in resolving the traffic violation cases
- In an earlier Lok Adalat held in September 2021, Sama, along with WhatsApp FAQs, used a customer care helpline in the form of IVR (Interactive Voice Response) to resolve 1.1 million traffic disputes.

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Phase 1

- Lok Adalat in September, 2021, Sama, in addition to WhatsApp FAQs, depended on a customer care helpline to resolve 1.1 million traffic violation disputes in Maharashtra.
- We transcribed 400 audio files from made over the customer care helpline and ran Natural Language Processing algorithms to form clusters of different themes of questions.
- These questions are added to the previous set of FAQs used by Sama to create an automated chatbot.

Phase 2

- In the next Lok Adalat, on 12th March, 2022, Sama, we randomized the 5.3 million traffic violations across five treatment arms to determine their impact on settlement rate.
- Five treatment arms were:
 - WhatsApp
 - WhatsApp+ IVR
 - IVR
 - IVR+ Chatbot
 - Chatbot
- Sama achieved a settlement rate of 18% and recovered INR 710 billion for the state.

Phase 3

- 14th May, 2022, Sama will be using IVR + WhatsApp to resolve traffic violation disputes

- The September 2021 interactions were recorded in 400 audio files.
- We transcribed these audio files and ran Natural Language Processing algorithms to generate clusters of questions across various themes.
- We used these ML generated questions along with the FAQs provided by Sama to construct the automated chatbot.
- The chatbot is designed to quickly identify the user's query and accordingly prompt questions and instructions that help them navigate and resolve their legal disputes

Five Treatment Arms

- Users received a link via SMS to access
 - ▶ the chatbot
 - ▶ IVR
 - ▶ IVR + WhatsApp
 - ▶ chatbot + WhatsApp
 - ▶ WhatsApp

Outcome	Duration		Actions		Pages	
	Total	Mean	Total	Mean	Total	Mean
Chatbot	11.288	3.875	0.209	0.131	0.116	0.076
	(11.48)	(6.43)	(0.40)	(0.40)	(0.30)	(0.06)
IVR	10.518	6.694	1.006	0.85	0.062	0.02
	(16.32)	(9.37)	(1.04)	(1.06)	(0.06)	(0.03)
IVR + WhatsApp	18.907	11.305	0.328	0.054	0.156**	0.080*
	(12.45)	(6.36)	(0.27)	(0.20)	(0.05)	(0.04)
Chatbot + WhatsApp	25.853	17.965	0.574*	0.384**	0.150**	0.113***
	(17.12)	(8.99)	(0.22)	(0.14)	(0.05)	(0.03)
Claims Amount	-0.009***	-0.005***	-0.000***	-0.000*	-0.000**	-0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Constant	289.371***	196.828***	12.334***	8.415***	2.040***	1.371***
	(9.87)	(5.40)	(0.19)	(0.17)	(0.03)	(0.02)
N	11694	11694	11694	11694	11694	11694
R2	0.078	0.095	0.008	0.003	0.035	0.012

- Control group received only the WhatsApp agent feature since this is the current approach used by Sama
- Duration variables refer to the dwell time of the user sessions
- Actions count refers to the no. of user clicks and other interactions with the platform
- Page counts refer to the no. of pages viewed by the user through the interaction with the chatbot

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- The Chatbot + Whatsapp treatment offers the option of interaction with human agents via WhatsApp on user demand after using the chatbot.
- Chatbot feature to assist and complement the human agents increases action and page counts from the users.
- An increase in page count essentially indicates that the users are able to obtain more detailed information on their queries and a hike in action counts could indicate that the users are more interested and engaged in the interaction.

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- Interestingly, in columns (1) and (2), where we are looking at the duration of the interactions, the addition of the chatbot feature did not really change the resolution rate.
- This implies that the use of chatbot to assist human interaction in ODR improves the user experience at no cost to the speed of resolution of cases.
- The results suggest the users were better able to express their voice in the case proceedings without significant loss of judicial state capacity.

Discussion

- Having a voice is an essential element of procedural justice, a foundational principle in legal theory that suggests fairness in legal proceedings is crucial to achieving just outcomes.
 - ▶ Results indicate an increased user engagement and maintained resolution rate with chatbot integration.
- The findings underscore potential of incorporating procedural justice principles in technological advancements, enhancing user participation, and contributing to the legitimacy and efficacy of the legal system.

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Metaverse

Colombia court moves to metaverse to host hearing

By Isabel Woodford ▾

February 24, 2023 11:08 PM GMT+1 · Updated 3 months ago



64 J.L. & Econ. 269 (2021)

Racial Bias and In-Group Bias in Virtual Reality Courtrooms

Racial Bias and In-Group Bias in Virtual Reality Courtrooms

Samantha Bielen *Hasselt University*

Wim Marneffe *Hasselt University*

Naci Mocan *Louisiana State University*

Abstract

We filmed videos of criminal trials using three-dimensional virtual reality (VR) technology, prosecuted by actual prosecutors and defended by actual defense attorneys in a real courtroom. This is the first paper that utilizes VR technology in a non-computer-animated setting. We alter only the race of the defendants, holding all activity in the courtroom constant, to create arguably perfect counterfactuals. Law students and economics students made conviction and sentencing decisions in these trials that differed only in defendants' race. White evaluators are harsher toward minority defendants in both conviction and sentencing. Minority evaluators are harsher toward minorities in conviction but more lenient in assigning prison terms. This pattern of behavior leads to significant bias against minorities at all stages—conviction, prison sentence, and fine—which is partly a reflection of the numerical majority of the evaluators being white. The same racial bias is observed in the decisions of practicing attorneys.

CAN WE PERSONALIZE DEBIASING TO THE LISTENER/VIEWER?