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REPORT

Analytical Dashboard on FTSC (Fast Track Special Courts) for 2020-2022

Introduction

Background of the Project

Fast Track Special Courts (FTSC) have been established to expedite the resolution of pending cases, particularly those related to certain categories of offenses. These courts play a critical role in the judicial system by addressing the backlog of cases and delivering justice in a timely manner. Efficient management and analysis of data pertaining to FTSC proceedings are essential for monitoring the performance of these courts, identifying bottlenecks, and streamlining judicial processes.

Objective

The primary objective of this project is to analyze FTSC data from the years 2020 to 2022, obtained from data.gov.in, to gain insights into the functioning and performance of these special courts. By employing analytical techniques and data visualization tools, the project aims to:

1. Evaluate the efficiency and effectiveness of FTSCs in adjudicating cases and reducing backlog.
2. Identify trends and patterns in case disposition, including types of cases and duration of proceedings.
3. Assess the geographical distribution of FTSCs and their caseloads across different regions.
4. Provide actionable insights to judicial authorities and policymakers for enhancing the effectiveness of FTSCs and improving access to justice.

Through this project, we aim to contribute to the ongoing efforts to strengthen the judicial system and ensure swift and equitable resolution of legal disputes within the framework of Fast Track Special Courts.

Data Acquisition and Preparation

Source of Data

The data for this project was sourced from data.gov.in, a repository of datasets provided by various government agencies in India. Specifically, datasets related to Fast Track Special Courts (FTSC) for the years 2020 to 2022 were accessed from the platform. These datasets contain information about case proceedings, including case types, court locations, dates of filing and disposition, and other relevant details.

Data Extraction Process

The data extraction process involved accessing the datasets from data.gov.in through the platform's interface or API. Once accessed, the datasets were downloaded in CSV or Excel format for further analysis. Care was taken to ensure that the datasets selected for analysis covered the specified time frame (2020-2022) and included relevant variables necessary for the objectives of the project.

Data Cleaning and Preprocessing

Before conducting the analysis, the raw data underwent a series of cleaning and preprocessing steps to ensure its accuracy, consistency, and suitability for analysis. These steps included:

1. **Handling Missing Values:** Any missing or incomplete entries in the dataset were identified and either imputed using appropriate techniques or removed from the analysis, depending on the extent of missingness and the nature of the variables.
2. **Data Transformation:** Certain variables may have required transformation to make them suitable for analysis. For example, dates may have been converted into a standardized format, categorical variables may have been encoded, and numeric variables may have been scaled or normalized.

3. **Quality Checks:** The cleaned dataset was subjected to quality checks to identify and resolve any inconsistencies, errors, or outliers that could potentially skew the analysis results.
4. **Data Integration:** In some cases, data from multiple sources or datasets may have been integrated to enrich the analysis or provide additional context to the findings.

Variables:

Environment	History	Connections	Tutorial	
<div> <div> <div>Import Dataset</div> <div>224 MiB</div> </div> <div>List</div> </div>				
<div> <div>R</div> <div>Global Environment</div> <div></div> </div>				
Data				
india	1518 obs. of 6 variables			
merged	15537 obs. of 10 variables			
my_data	1425 obs. of 6 variables			
my_data1	50 obs. of 5 variables			
new_join	15537 obs. of 13 variables			
st	50 obs. of 4 variables			
state_map	15537 obs. of 6 variables			
Values				
c1	chr [1:6] "Year" "state" "district" "No...			
c2	chr [1:4] "Year" "No_of_CSCs" "CasesR" ...			
states	chr [1:50] "Alabama" "Alaska" "Arizona"...			

Dashboard Overview :

In the Dashboard Overview section, the first tab focuses on presenting the dataset for analysis. It provides a comprehensive overview of the quantitative aspects of the dataset, including measures such as mean, median, minimum, and maximum values. These statistics are calculated for each year within the specified timeframe (2020-2022), allowing for a comparative analysis of trends and patterns over the three-year period. By presenting these key

metrics in a clear and accessible format, the dashboard facilitates a deeper understanding of the dataset's characteristics and enables stakeholders to make informed decisions based on the insights derived from the analysis.

Exploring the functional FTSCs in India with R & Shiny Dashboard

My Channel

My Profile

Source Code

Dataset

Visualization

Choropleth Map

About

Data

Structure

Summary Stats

Show 10 entries

Search:

	S.No.	state	FTSC2020	FTSC2021	FTSC2022
1	1	Andhra Pradesh	8	10	14
2	2	Assam	7	15	17
3	3	Bihar	45	45	45
4	4	Chandigarh	1	1	48
5	5	Chhattisgarh	15	15	15
6	6	Delhi	0	16	16
7	7	Gujarat	35	35	35
8	8	Goa	0	0	1
9	9	Haryana	16	16	16
10	10	Himachal	3	6	6

Showing 1 to 10 of 29 entries

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'data.frame': 29 obs. of 5 variables:

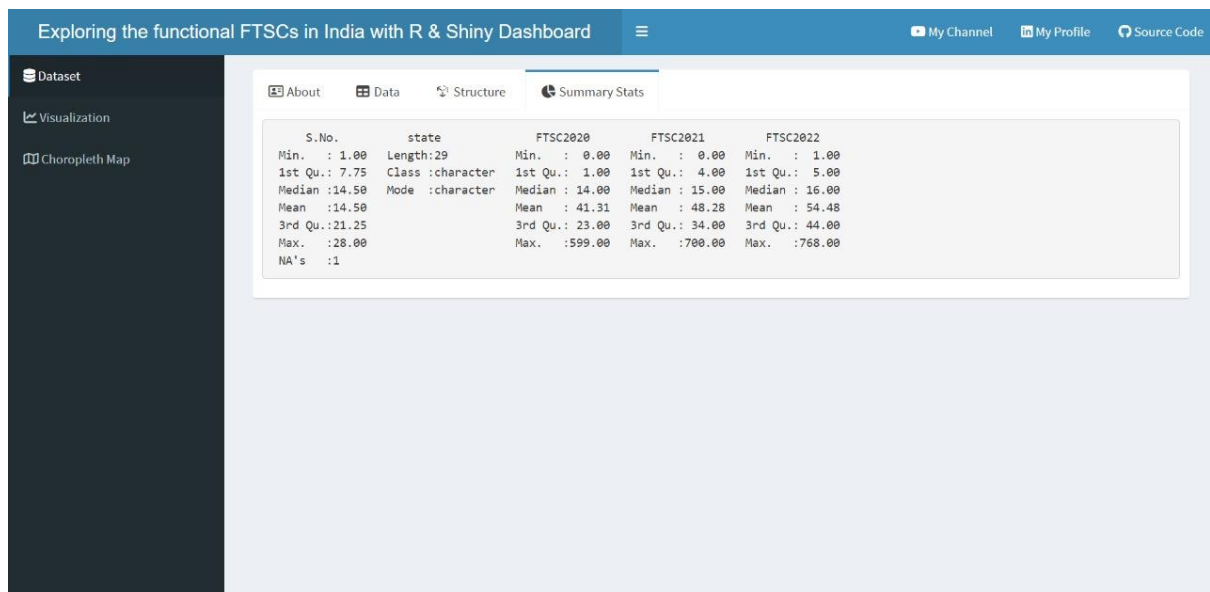
\$ S.No. : int 1 2 3 4 5 6 7 8 9 10 ...

\$ state : chr "Andhra Pradesh" "Assam" "Bihar" "Chandigarh" ...

\$ FTSC2020: int 8 7 45 1 15 0 35 0 16 3 ...

\$ FTSC2021: int 10 15 45 1 15 16 35 0 16 6 ...

\$ FTSC2022: int 14 17 45 48 15 16 35 1 16 6 ...



Visualisation

In the Dashboard Overview section, the visualization component plays a crucial role in presenting key insights derived from the analysis. Graphs depicting the number of cases registered each year offer a visual representation of the caseload trends over time. Additionally, the dashboard features two tabs highlighting the performance of Fast Track Special Courts (FTSCs) across different states. One tab showcases the top five states with the highest rate of functional FTSCs, with Uttar Pradesh receiving the highest rating. Conversely, another tab highlights the bottom five states with the lowest rate of functional FTSCs, with Goa and Nagaland receiving the lowest ratings. These visualizations provide stakeholders with valuable insights into the distribution and performance of FTSCs across regions.

Trends by State/UT

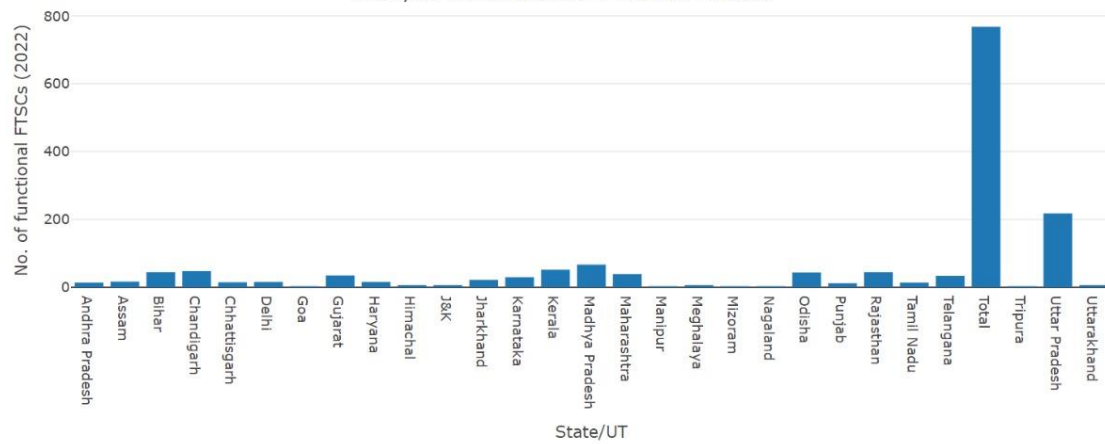
Distribution

Relationship among No. of Fast Track cases in 2021 and 2022

5 States/UTs with high rate of functional FTSCs as of 2022

5 States/UTs with low rate of functional FTSCs as of 2022

State/UT wise functional FTSCs as of 2022



Trends by State/UT

Distribution

Relationship among No. of Fast Track cases in 2021 and 2022

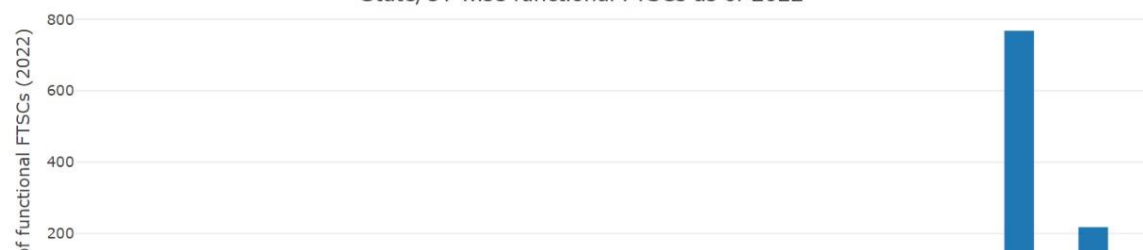
5 States/UTs with high rate of functional FTSCs as of 2022

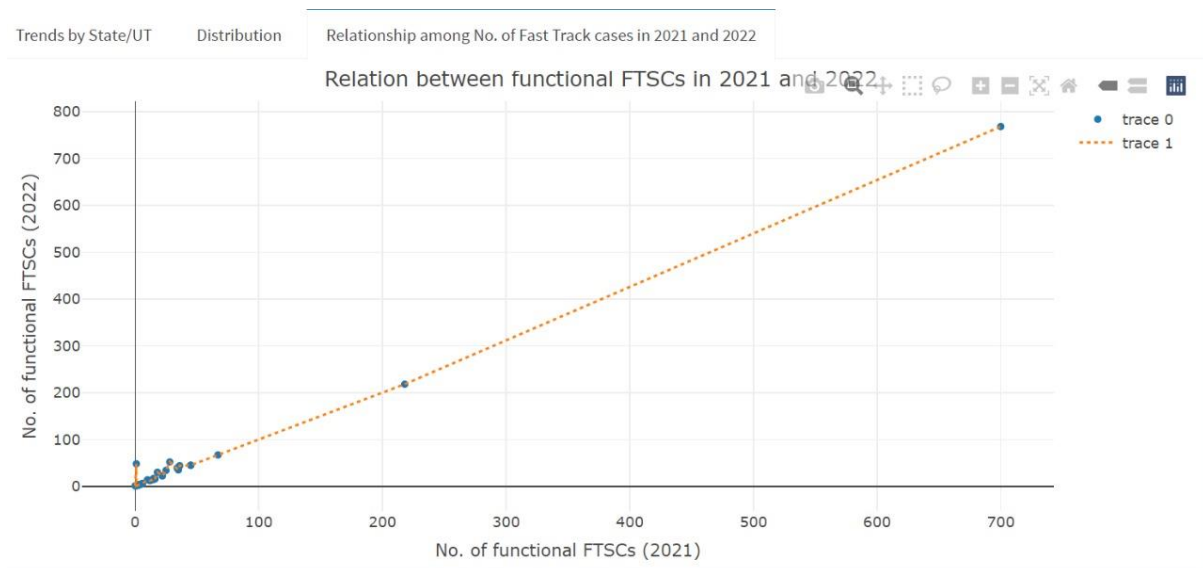
5 States/UTs with low rate of functional FTSCs as of 2022

state	FTSC2022
Total	768
Uttar Pradesh	218
Madhya Pradesh	67
Kerala	52
Chandigarh	48

state	FTSC2022
Goa	1
Nagaland	1
Manipur	2
Mizoram	3
Tripura	3

State/UT wise functional FTSCs as of 2022





Summary

1. **Caseload Trends:** The quantitative analysis of the dataset reveals trends in the number of cases registered each year. We observe fluctuations in caseloads over the three-year period, indicating variations in the workload and demand for judicial services.
2. **Geographical Distribution:** Through visualizations, we have identified the top five states with the highest rate of functional FTSCs, with Uttar Pradesh emerging as the highest-rated state. Conversely, Goa and Nagaland are among the bottom five states with the lowest rate of functional FTSCs. This highlights disparities in the implementation and effectiveness of FTSCs across different regions.
3. **Performance Evaluation:** The dashboard facilitates the evaluation of FTSCs' performance based on various metrics, including caseloads and functionality rates. By comparing states' rankings, stakeholders can assess the relative efficiency and effectiveness of FTSCs in different jurisdictions.
4. **Decision Support:** These insights provide valuable information for judicial authorities and policymakers to make informed decisions regarding resource allocation, capacity building, and policy interventions aimed at enhancing the performance of FTFSS and improving access to justice.

5. **Further Analysis:** Going forward, additional analysis could delve deeper into specific aspects such as case disposition rates, average duration of proceedings, and the impact of FTSCs on reducing backlog. This comprehensive analysis will provide a more nuanced understanding of FTSCs' functioning and their contribution to expediting case resolution and improving judicial outcomes.