Abstract of Ph.D. Thesis

"Efficient Performance of Indian Judiciary: An Operations Research Approach"

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The judicial system of any country is responsible for ensuring protection of the rights of citizens and upholding justice in the event of violations. The timely resolution of cases is an essential requirement of a judicial system. Courts should be capable of resolving cases within predictable time frames wherein the case is processed through established procedures, and judgement is delivered in an impartial manner. Avoidable delays in pronouncing judgements by courts can lead to public losing faith in the country's judicature. Further, a well-performing judiciary is essential to a country's economic growth and development.

Judicial systems across countries differ in terms of their organizational structure, legal culture, underlying laws, and procedures. Accordingly, judicial performance and factors affecting this performance may vary. Hence, policy interventions to improve performance should be developed and customized according to the context to yield long-term gains in efficiency. The objective of this research is to develop evidence-based decision-making models to measure and improve the performance of the Indian judicial system for better delivery of judicial services. The models developed in the thesis can be adapted to other contexts and judicial systems as well.

The thesis focusses on the quantitative aspects of judicial performance measured in terms of the number of cases disposed and time taken to resolve cases. The literature suggests that judicial quality is an inherent part of quantitative performance since the mandate of any judicial system is to pronounce quality judgements in a timely, impartial, and transparent manner. The thesis starts with a measurement system to evaluate and compare the performance of courts. Multiple models with varying input and output variables are developed. The efficiencies of Indian high courts are measured across a three-year period. Results identify the specific courts that are efficient in disposing cases, including the effect of their high volume. They point to policy imperatives and overall peer learning, as well as for specific aspects such as dealing with high pendency or fresh institution of cases.

The next study identifies various factors that affect an efficient delivery of judicial functions in Indian courts. A review of literature helps determine factors that are relevant to the Indian

context. The factors are ranked to identify factors that have the maximum potential to improve judicial efficiency. This is followed by a quantitative assessment of the impact of various factors on judicial efficiency. Meaningful insights are derived from the results. Focused changes in acts and codes for simplification of judicial processes are essential to enhance judicial efficiency. Judges and staff can play a more active role by adopting practices to improve case procedures. Various challenges associated with technological reforms need to be addressed for their successful implementation. Separate procedures can be outlined for complex cases and judges can prioritize these cases to reduce unnecessary delay. While it is frequently proposed that a scarcity of judges causes an increase in pending cases, results provide evidence that a large number of judges does not have the desired impact on judicial efficiency. Accordingly, we develop frameworks to enhance judicial performance with and without an increase in judges.

We develop a framework of mathematical models to determine the optimum judicial strength and required reallocations and recruitments to maximize the number of cases disposed. The models can help decision-makers optimally transfer and recruit judges based on their priorities, especially in the case of scarce resources. The models are empirically tested on a case of district courts in Delhi, India. Various scenarios with different parameters provide clear evidence of better performance. Even with the current judicial strength, the overall performance of the state judiciary can be improved through transfer of judges.

The next framework determines an optimum schedule of hearings of cases assigned to a judge. The framework consists of mathematical models that aim to maximize the number of cases disposed and minimize the duration of cases. The models can help judges enhance cases disposed through an improved utilization of their hearing time and prioritization of cases that need urgent attention. The framework is empirically tested for cases assigned to a judge in a district court in Delhi, India. Results from various scenarios indicate that the judicial performance can be improved through an optimized case scheduling system.

Overall, the thesis provides frameworks and models to assist in measurement and improvement of judicial efficiency. The models developed can be used by decision-makers to develop policy interventions and take efficient decisions based on empirical support.