



A computational analysis of school factors for reducing drop-outs in Mumbai's Municipal Schools

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AI FOR ACCESSIBILITY

AI for ACCESSIBILITY

Education for the weaker socio-economic class



THE PROBLEM

Addressing school drop-outs among students from weaker socio-economic backgrounds



01

22.3% of the Indian population is **YOUNG** and **UNEDUCATED**, stuck in the cycle of unemployment and poverty



02

48.6% of student drop-outs are due to the lack of child-centric **SCHOOL FACTORS**



03

The child-centric school factors include:

- Learning Resources
- Infrastructure
- Health & Hygiene
- Safety



04

Government funds for aided schools are allocated **without any FOCUSED ANALYSIS** of individual school factors



SCHOOL FACTORS IMPACTING DROPOUTS

LEARNING RESOURCES

Free Textbooks and Uniforms



SCHOOL INFRASTRUCTURE

Digital facilities, Laboratories, Playgrounds



HEALTH AND HYGIENE

Meals, Drinking Water, Toilets



SAFETY

Female Teachers, Transport



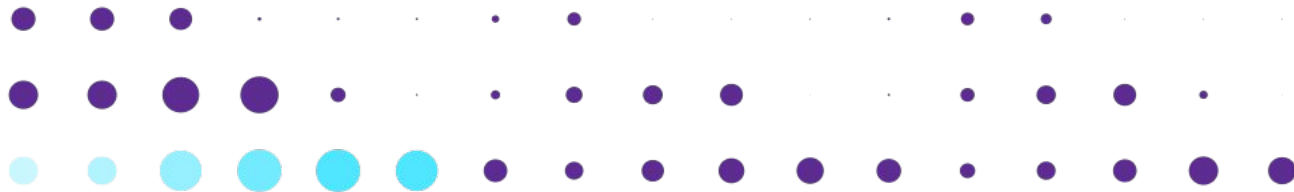
Government Fund Allocation

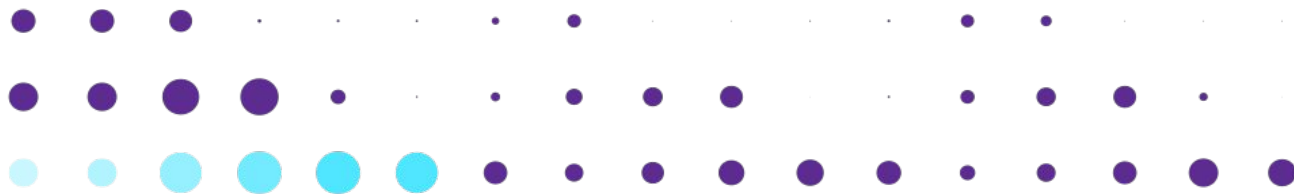
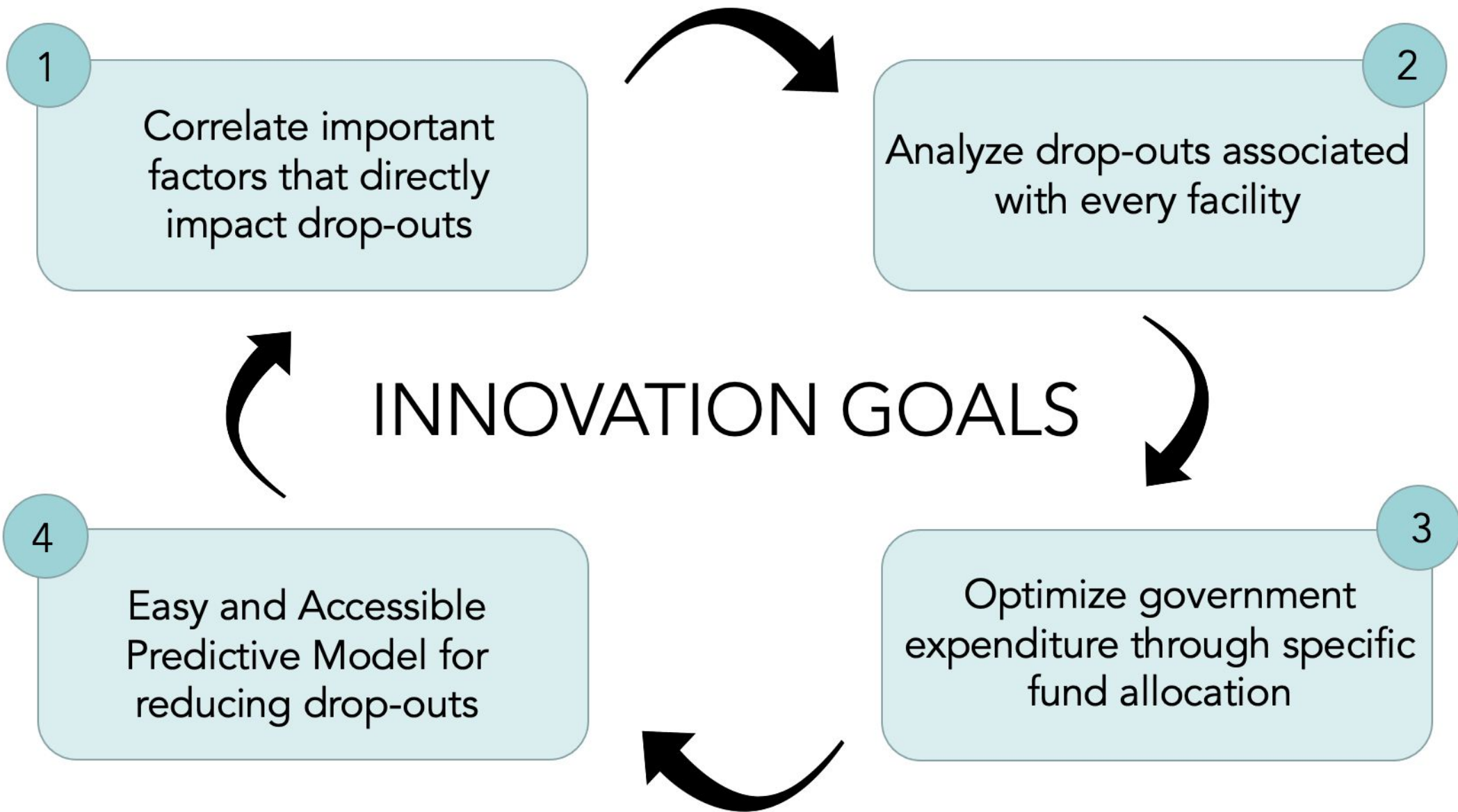
WITHOUT any FOCUSED ANALYSIS of individual SCHOOL FACTORS



What the Government SHOULD do

CORRELATE school parameters to identify SPECIFIC AREAS of improvement





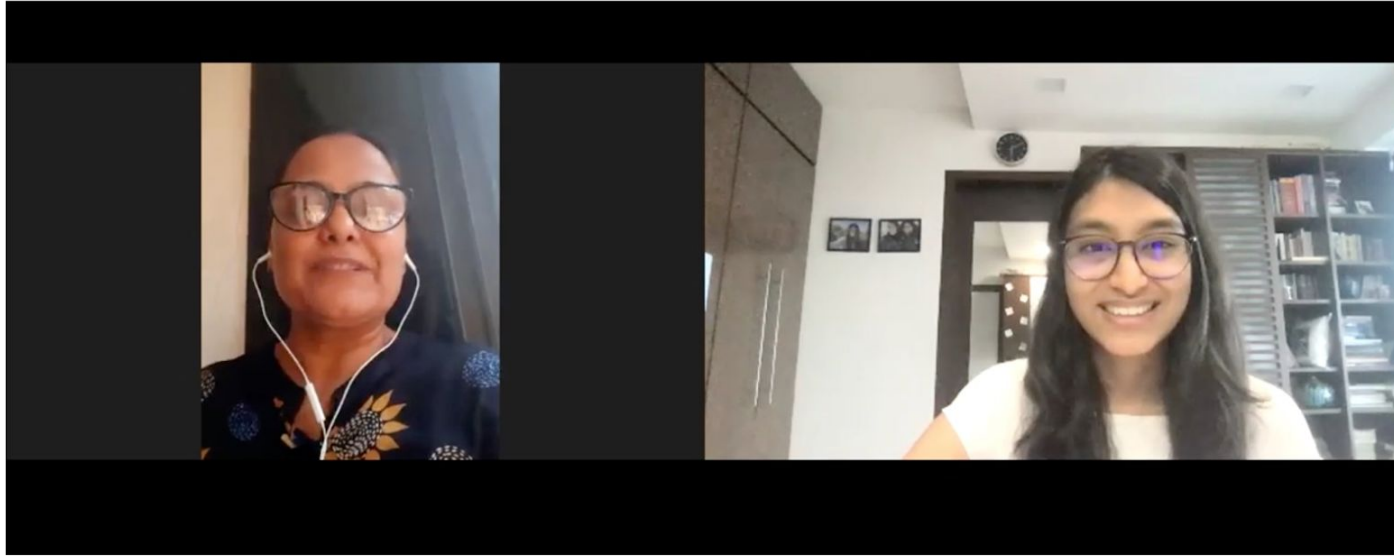
DATA COLLECTION

1. 1600+ Datasets (school report cards) collected
2. Authentic data with each school's information in a standardized format
3. Uploaded regularly by the government for all schools
4. Parameters:
 - School category and type
 - Medium of instruction
 - Free textbooks, uniforms and transport
 - Digital facilities
 - Teachers
 - Toilets
 - Class rooms
 - Infrastructure (playgrounds, furniture etc.)

SCHOOL REPORT CARD (as on 30th September 2018)

UDISE Code	27 22 02 00 289	School Name	BAJAJ MR SCHOOL				
State	Maharashtra	District	MUMBAI (SUBURBAN)	Block	URC-2 (KANDIVALI)		
Rural / Urban	2-Urban	Cluster	BAJAJ ROAD MUN MAF				
Ward	R/S-WARD	Mohalla		Pincode	400067		
Panchayat	NA	City	Mumbai	Municipality	MUMBAI		
Assembly Const.		Parl. Constituency					
School Category	1 - Primary	Medium of Instruction	Medium 1	10-Marathi			
School Management	3-Municipal Corporations (MNC)	Medium 2					
School Type	3-Co-Educational	Medium 3					
Lowest & Highest Class	1 - 5	Medium 4					
Pre Primary	2-No						
Year of Establishment	1973	Is this a Shift School?	2-No	Anganwadi At Premises	2-No		
Year of Recognition-Pri.		Building Status	3-Government	Anganwadi Boys	0		
Year of Recognition-Upr.Pri.		Boundary wall	1-Pucca	Anganwadi Girls	0		
Year of Recognition-Sec.		No. of Building Blocks	1	Anganwadi Worker	NA		
Year of Recognition-Higher Sec.		Pucca Building Blocks	1	Residential School	2-No		
		Is Special School for CWSN?	1-Yes	Residential Type			
Affiliation Board-Sec		Availability of Ramps	1-Yes	Minority School	2-No		
Affiliation Board-HSec		Availability of Handrails	1-Yes	Approachable By All Weather Road	1-Yes		
Toilets	Boys	Girls	Total Class Rooms	6	Drinking Water Available	1-Yes	
Total	4	4	In Good Condition	6	Drinking Water Functional	Yes	
Functional	3	3	Needs Minor Repair	0	Rain Water Harvesting	2-No	
Func. CWSN Friendly	1	1	Needs Major Repair	0	Playground Available	1-Yes	
Urinal	5	1	Other Rooms	0	Furniture Availability	58	
Handwash Near Toilet	1-Yes		Library Availability	1-Yes	Electricity Availability	1-Yes	
Handwash Facility for Meal	1-Yes		Separate Room for HM	1-Yes	Solar Panel	2-No	
					Medical checkups	1-Yes	
Digital Facilities (Functional)	No. of Students Received (DCF 5.1, 5.2)						
ICT Lab	2-No	Internet	1-Yes	Desktop	1	Free text books	47
Laptop	0	Tablet	0	Printer	0	Transport	0
Projector	0	DTH	2-No	DigiBoard	0	Free uniform	0
RTE Information & Management							
SMC Exists	1-Yes	SMC & SMDC Same	NA	SMDC Constituted			
Text Books Received	1-Yes	Special Training	1-Yes	Material for Training	1-Yes		
Grants Details under Samagra Shiksha (DCF Sl. No. 8.3)							
Grants Receipt	10000.0	Grants Expenditure	10000.0				
Total no. of Students Enrolled Under Section 12 of the RTE Act in Private Unaided and Specified Category Schools (DCF Sl. No. 1.42(a))							
Pre-Pri.	Class I	Class II	Class III	Class IV	Class V	Class VI	Class VII
B	G	B	G	B	G	B	G
-	-	-	-	-	-	-	-
Total no. of Economically Weaker Section (EWS) students Enrolled in Schools (DCF Sl. No. 1.42(b))							
Pre-Pri.	Class I	Class II	Class III	Class IV	Class V	Class VI	Class VII
B	G	B	G	B	G	B	G
-	-	-	-	-	-	-	-
Teachers							
Classes Taught							
1-Primary	6	2-Up.Pr.	0				
3-Pr. & Up.Pr.	0	5-Sec. only	0				
6-H Sec only	0	7-Up pri and Sec	0				
8-Sec and H Sec	0	10- Pre-Primary Only	0				
11-Pre- Pri & Pri	0						
Teachers Aged above 55	0	Below Graduate	0	Graduate	5		
No. of Total Teacher Received Service Training	0	Post Graduate and Above	1				
Total Teacher Involve in Non Training Assignment	0	Total Teacher Trained in Computer	6				
Teacher With Professional Qualification							
Diploma or Certificate in basic teachers' training	2	Bachelor of Elementary Education (B.El.Ed.)	0				
B.Ed. or Equivalent	1	M.Ed. or Equivalent	0				
Other	0	None	0				
Diploma/degree in special Education	3	Pursuing any Relevant Professional Course	0				

INTERACTION with SPECIALISTS

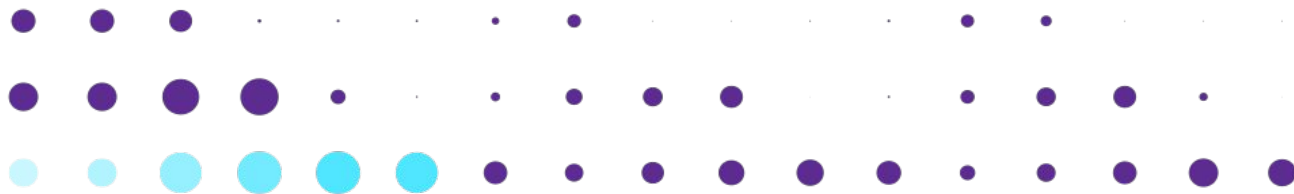


Meetings with:

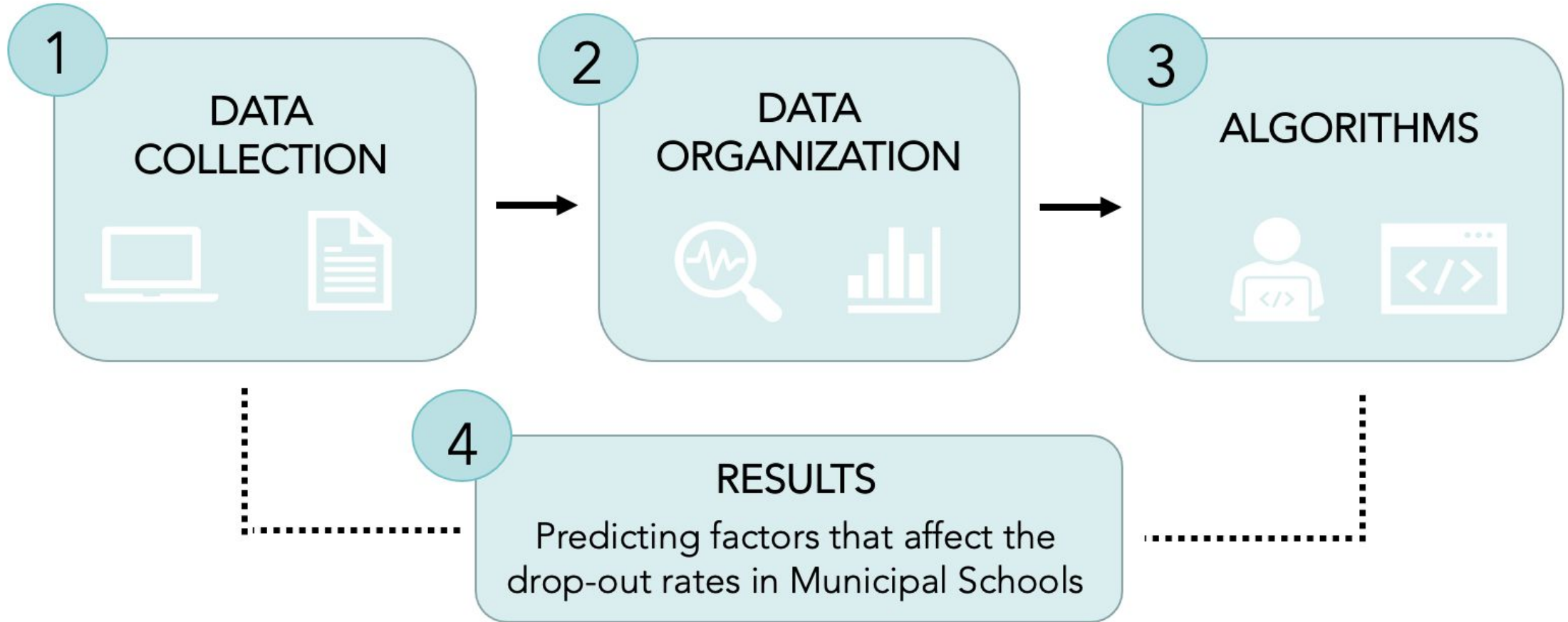
Ms. Sapna, Founder of Yogdaan School

Mrs. Nikita Ketkar, CEO of Masoom

Mrs. Kajal Chhatija, Principal of Global Talent International School



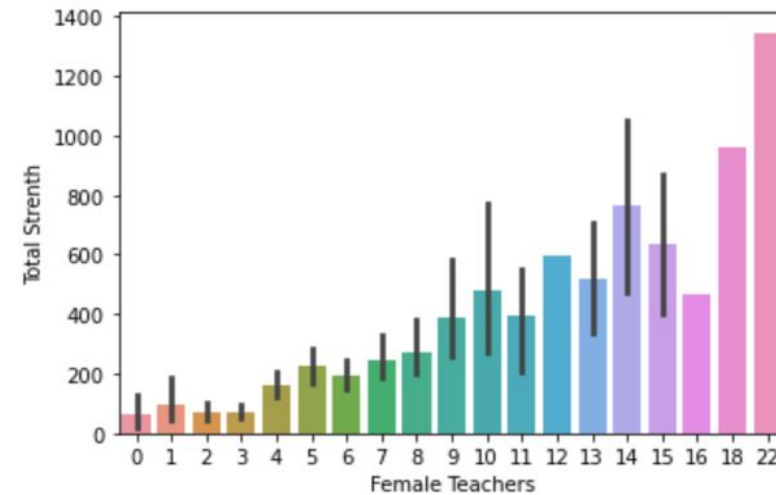
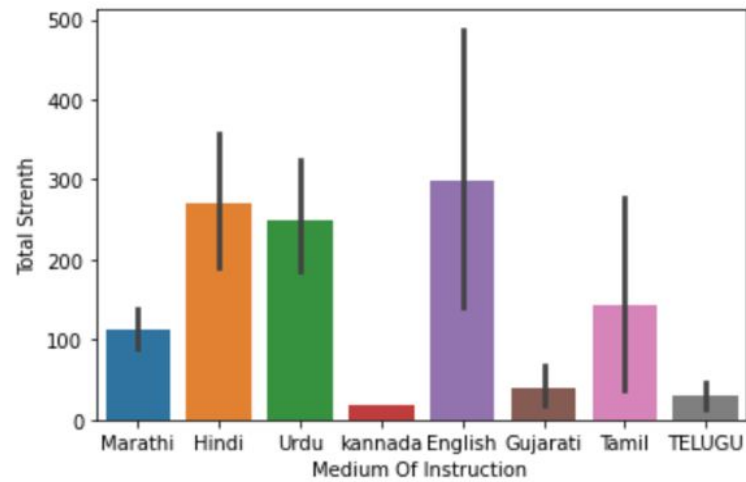
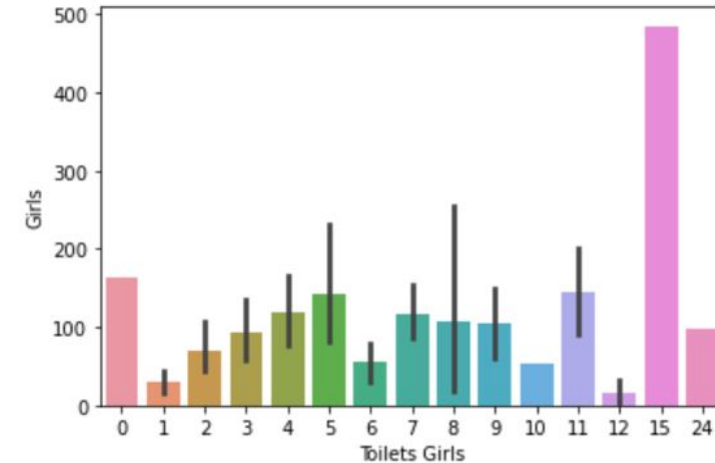
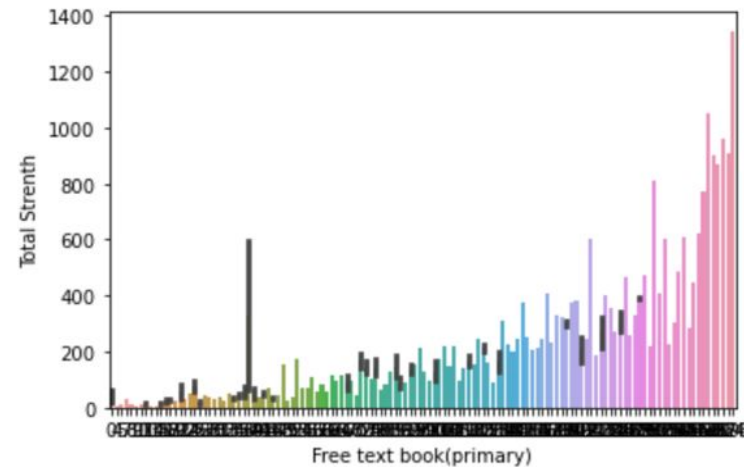
CONCEPT



Decision Tree Model – 98.6% Precision



DATA ANALYSIS



Digital Learning Facilities



English Medium of Instruction



FACTORS THAT
CAN REDUCE
DROP-OUT RATES



Free Textbooks and Uniforms

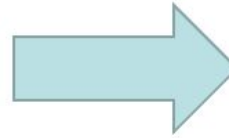
Female Teachers



HAS to be a SHIFT IN FOCUS

SCHOOL FACILITIES

- Playgrounds
- Toilets
- Mid-day meals



PROGRESSIVE EDUCATION

- English Medium of Instruction
- Digital Facilities (Desktops, Laptops, Tablets)
- Free Textbooks and Resources

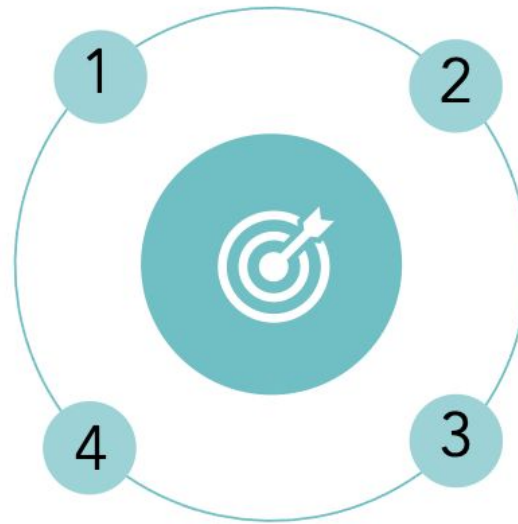


IMPACT

Education and Employability

Improved employment rate
because of quality education

Municipal schools will be
looked at as an education hub
rather than a caregiving facility



Equality in education – at par
with private schools

Breaks the cycle of poverty
for first-generation learners



CONCLUSION

1. Students of Municipal Schools represent the **YOUTH** of India
2. Students are looking at school factors that enable **EMPLOYABILITY**, not just facilities
3. The government should focus on **PROGRESSIVE LEARNING** through:
 - Digital medium (laptops, tablets)
 - English as a medium of instruction
 - Free learning resources (textbooks, uniforms, laboratories)

DIRECT RESOURCES TOWARDS QUALITY EDUCATION

Team EduStat

ARIA GUPTA

Aditya Birla World Academy, INDIA

