EDI Research Link Up
Research Presentation

Center for Effective Global Action

Using Digital Trails to Improve Management and Accountability for Public Service Delivery (India)
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Problem Statement/Motivation

- Defining features of service delivery in developing settings is its hierarchical delivery apparatus → can lead to agency issues across multiple nexus (information frictions, incentive misalignments)
- Yet digital data trails can address many previous challenges related to information flows
- *We ask: How should reforms that improve information about service delivery be deployed? Can public sector reforms be more effective when political actors are involved?*
- Our case: Delivery of wages India's public workfare guarantee, NREGA: reaches 50 million households/year, but payments only arrive ~23 days after completing a workspell
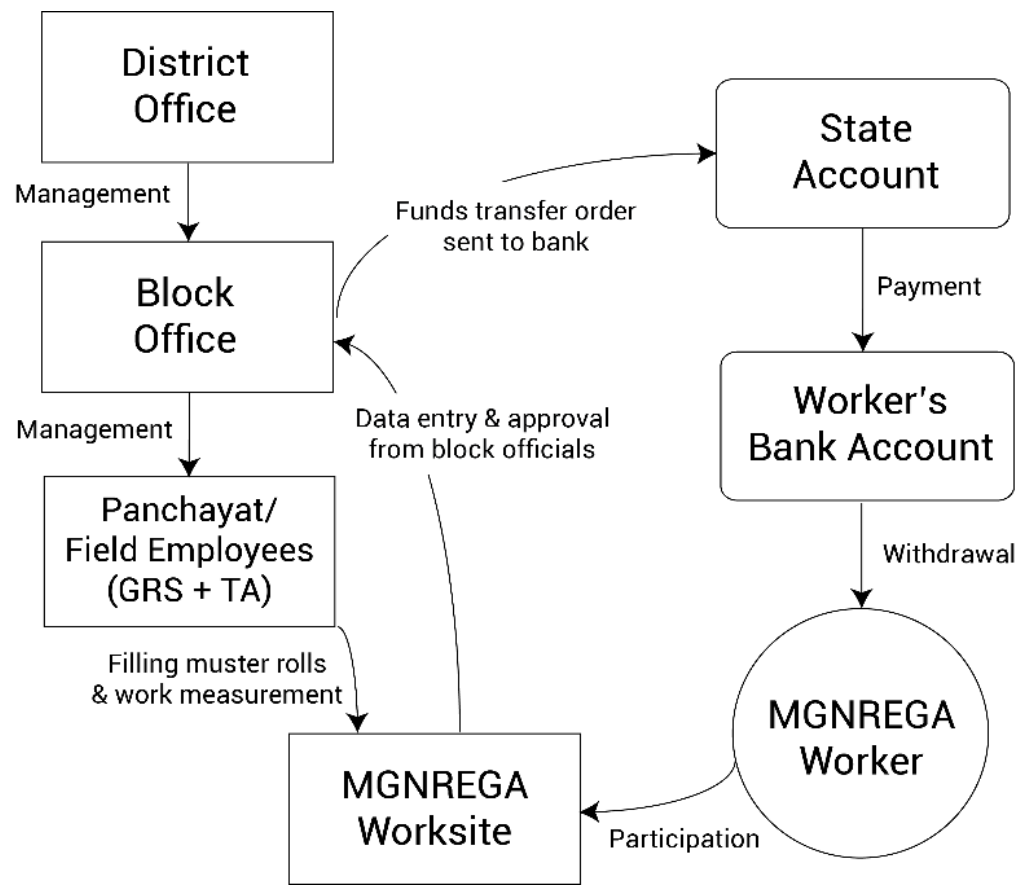
Research Question/Hypotheses

- Can reducing information asymmetries by improving monitoring ability of higher-level bureaucrats be a complement to reductions in the costs of information acquisition for lower-level bureaucrats?
    - Hypothesis 1 - *Management practices are most likely to improve when managers at different levels of hierarchy receive better information.*
- Can we improve service delivery by increasing information available to elected local politicians, even when the politicians have no direct administrative responsibilities for program delivery?
    - Hypothesis 2 – *Improving information on program administration to elected local representatives will increase program accountability, and therefore performance.*
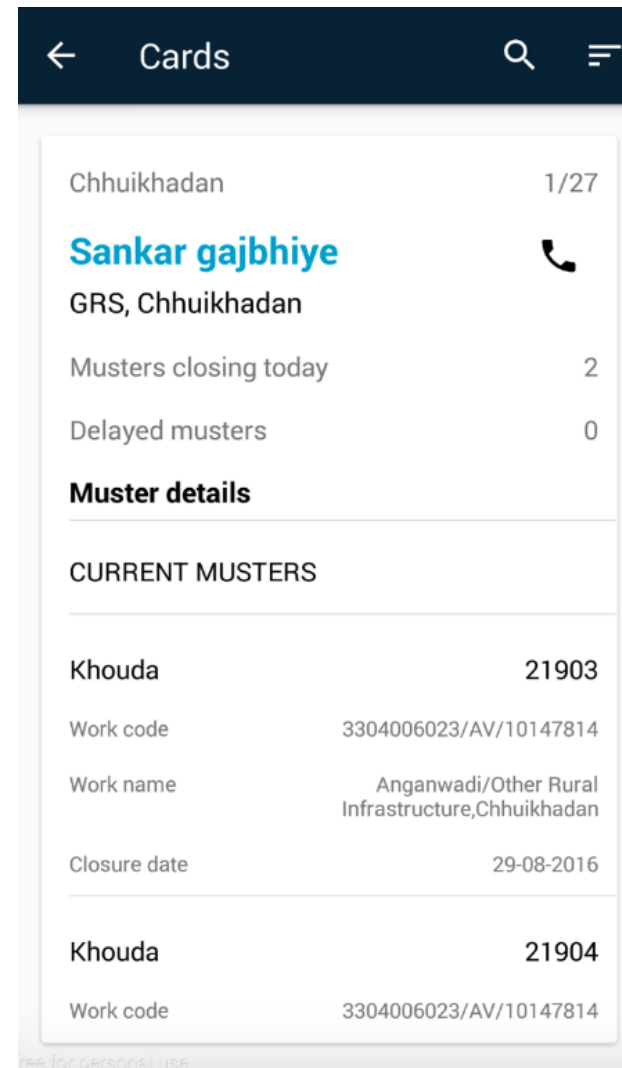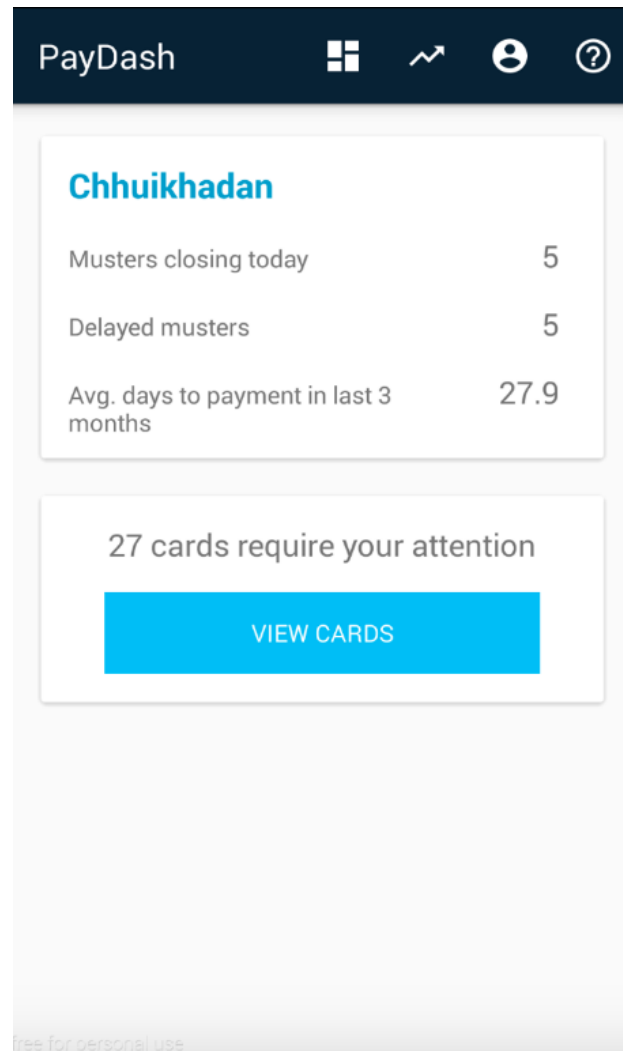
Study these questions in two randomized control trials

RCT #1: Randomized at district level:
- Control (20 districts): status quo information on payment processing
- District only (16 districts): more senior district officials provided app with payment-related information
- Block only (17 districts): lower-level block officials provided app with payment-related information
- District + Block (20 districts): both senior and junior officials provided app with payment information

Study these questions in two randomized control trials

RCT #2: Randomized roll-out of payment processing information to lower-level elected officials
Initial plan: cross-randomize intervention to 500 GPs across 8 districts (2 per treatment arm, including control)

Linkages:
* *Scale of intervention (multiple states, types of officials)*

Data Collection / Measurement Strategy

- NREGA administrative data
    - Time to payment (mean, absolute average deviation)
    - Programmatic outcomes (person-days, expenditure)
- Baseline survey data
    - Demographics, work & management practices, understanding of program & challenges/delays, organizational performance
    - Reciprocity, propensity toward corruption, public service motivation, Big 5, Raven's tests, communication & networks
- App usage data

- Linkages:
    - *Survey questions*
    - *Time use data collection*

Early Results/ Challenges/ Next Steps
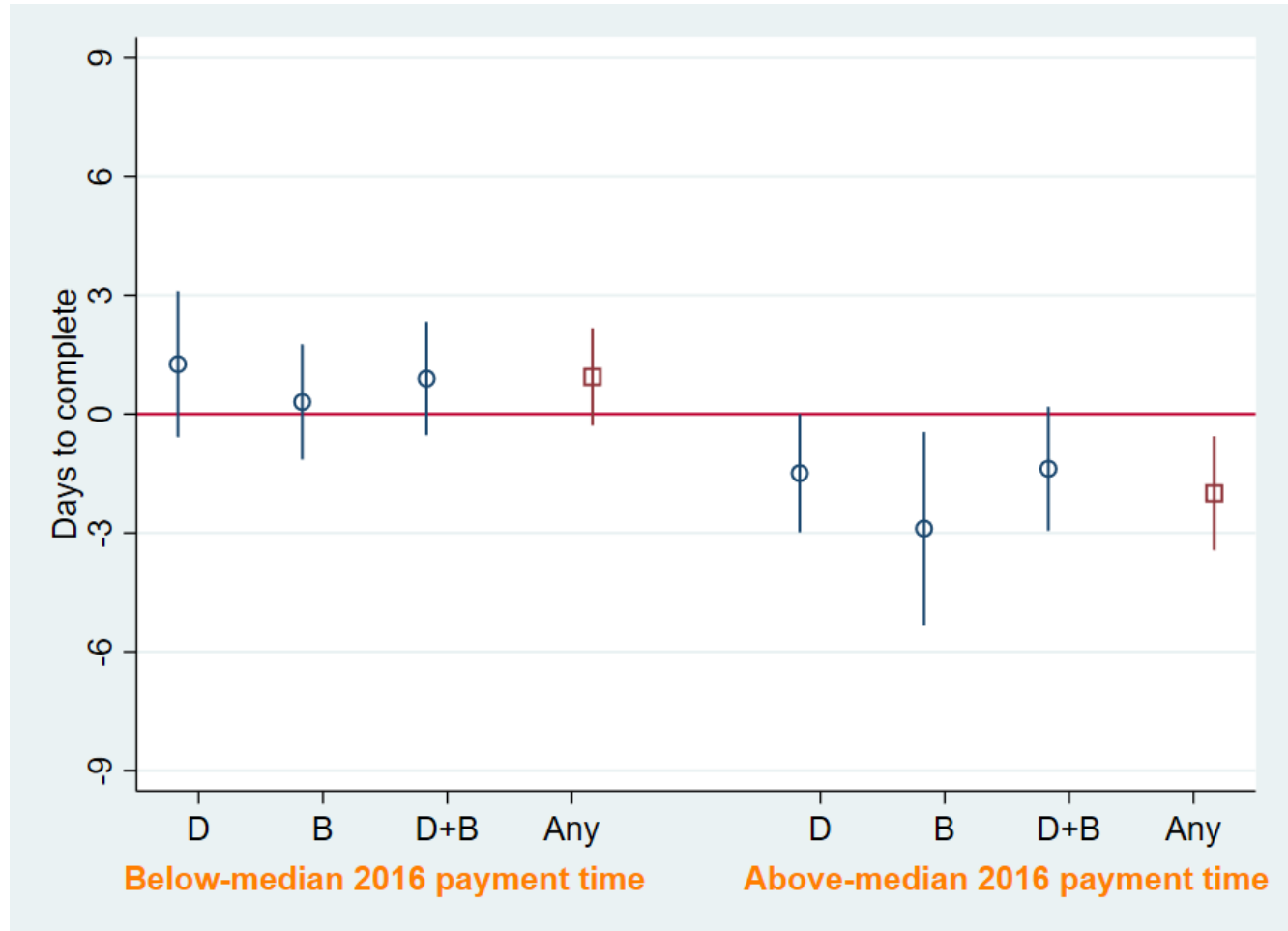
Early Results/ Challenges/ Next Steps

- Delayed funding →
    - Limiting support we can provide for RCT#1 (addressing data issues, tracking transfers, supporting relationship management with states)
    - Delaying RCT#2 design and roll-out (and will likely run into election delays)

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Table 2: Reduced-form impacts of PayDash provision

	Average days to complete	
	(1)	(2)
District PayDash	-0.095	
	(0.847)	
Block PayDash	-2.285**	
	(1.049)	
District+Block PayDash	−0.671	
	(0.578)	
Any PayDash		-0.935°
		(0.581)
Test for equality of coeffs., p-value:		
District = Block	0.058	
District = District + Block	0.489	
Block = District + Block	0.128	
Observations	13,061	13,061
Control outcome mean [SD]	7.881	7.881
	[8.261]	[8.261]

Notes: All columns report OLS estimates from block-month-level regressions of the listed variable on indicators for PayDash treatment availability, weighted by the total number of transactions. Additionally included are block and month fixed effects. Standard errors clustered at the district level in parentheses. Significant at *10 percent, **5 percent,***1 percent. °p-value =0.112.

Table 6: Platform usage and time to completion - IV

Usage measure:	Average days to complete				
	Any usage (1)	Number of sessions (2)	Usage duration (min) (3)	Cards viewed (4)	Messages sent + calls made (5)
District officers	0.735	0.130	0.019	0.014	0.020
	(0.938)	(0.157)	(0.032)	(0.028)	(0.053)
Block officers	-1.716**	-0.233*	-0.031*	-0.012*	-0.287
	(0.872)	(0.129)	(0.017)	(0.007)	(0.250)
Observations	12,045	12,045	12,045	12,045	12,045

Notes: All columns report IV estimates from block-month-level regressions of the listed variable on the indicated distict and block officer usage measures, instrumented by the randomized provision of district, block, and district+block PayDash and weighted by the total number of transactions. Additionally included are block and month fixed effects. Standard errors clustered at the district level in parentheses. Significant at *10 percent, **5 percent,***1 percent.

Thinking through design for RCT#2:

- Ho: Local elected leaders accountable for service delivery → info to elected leader improves service delivery (admin data)
- Ho: In RCT#1 treatment areas, RCT#2 complementarities
  - When local bureaucrats' incentives aligned with higher-level monitoring (in other treatment areas) → Local elected officials' information *more effective* (admin data)
  - When local bureaucrats' incentives less aligned with higher-level monitoring (control areas) → Lower responsiveness to information/Increase cost to local elected official to process payment (admin and endline data from local bureaucrats)
- Ho: When local elected leaders' electoral incentives lower → Lower responsiveness to information/increase cost of addressing delays (admin data and endline data – workers)