

Proliferation of Wi-Fi Hotspots in Rural Area : Approach and Modelling

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Introduction: Challenges & Need for last mile connectivity at GPs

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Different available Models

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Suggested Model

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Fund Flow & Monetization

Key challenges of Wi-Fi model



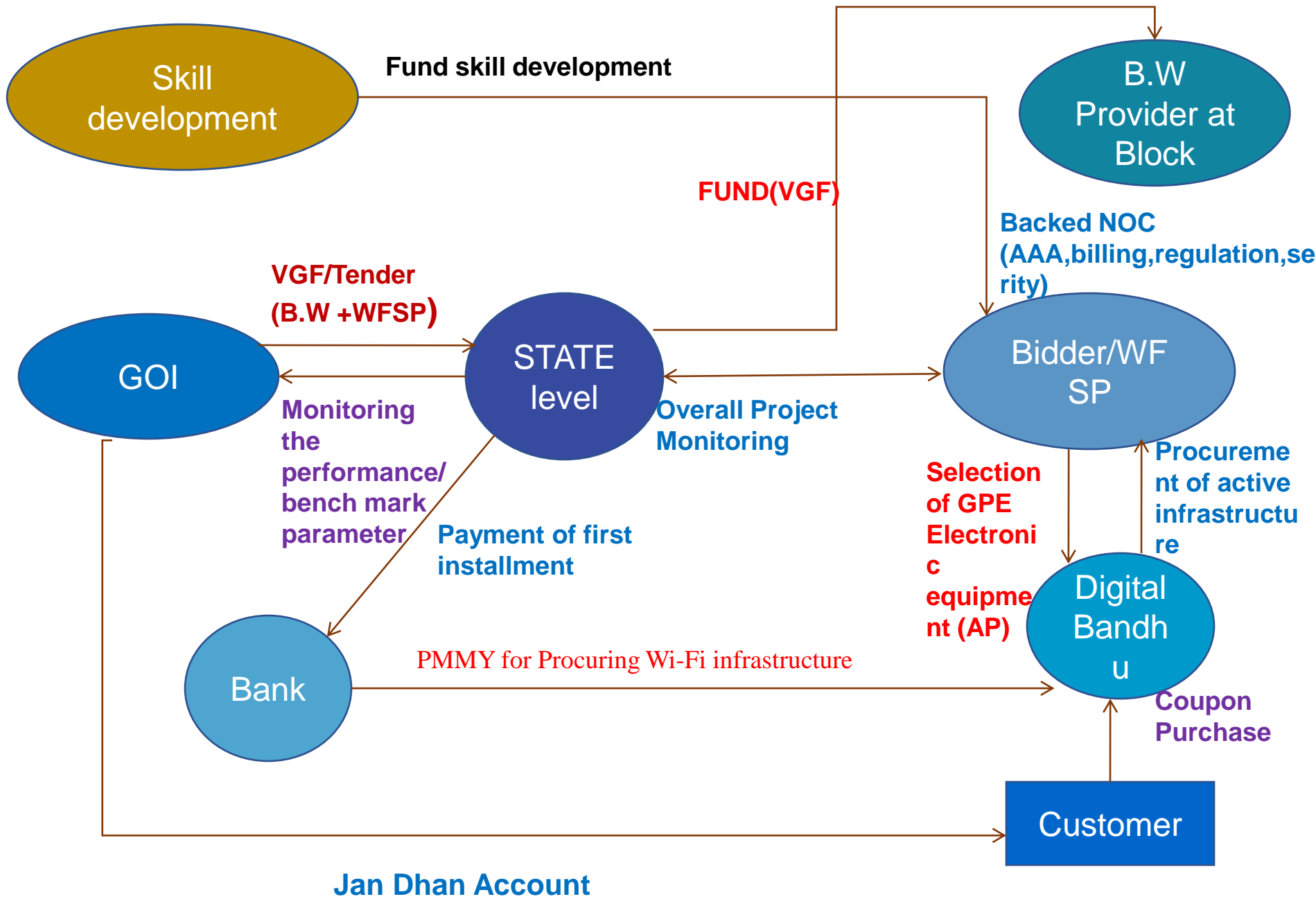
Case for last mile Wi-Fi connectivity

1. No service provider /mechanism exists for delivery of services to the rural citizens
2. Wi-Fi will suffice the requirement of last mile connectivity for faster roll out and ease of maintenance
3. Capability to deliver connectivity to many critical projects at GPs (e.g. Connect to Schools, post offices, PHCs, CSC etc.)

Different Models

Different Wi-Fi models

Model	Advantage	Challenges
Revenue Sharing	<ul style="list-style-type: none"> • No upfront payment • Link with customer delivery • Capex & opex expenditure incurred by the respective partners 	<ul style="list-style-type: none"> • Slow progress • Partner is not ready for huge investment • Development is limited to relatively lucrative areas
Standard terms & conditions	Certainty of prices & terms uniformity of Infrastructure	<ul style="list-style-type: none"> • Price discovery – challenging task • Define appropriate terms & conditions
Negotiation	<ul style="list-style-type: none"> • Dynamic model : terms can be changed • Attractive for potential partners 	<ul style="list-style-type: none"> • Open to dispute; different terms for different partners • Inherent uncertainty of pricing and terms
Collaborative	Local collaboration, no resentment among locals Long term sustainable model	<ul style="list-style-type: none"> • Identify & appointment of “Digital Bandu “ • VGF Fund flow mechanism
Auction	Min VGF Less controversial	potential to create monopolies Not sustainable model in long term



GOI	Private	GPE(Digital Bandhu)	TSP for Internet BW at Block
VGF - Internet BW & Customers under DBT scheme	Project monitoring	Responsible for procurement & maintenance of wi-fi infra at GP; using Mudra Yojna loan facility; Absolute owner of the infra.	Terminate Internet BW at OLT & provide online monitoring tools
Decide the nos. of BB connection & other bench mark parameters	Provide wi-fi backend system (AAA, Billing, Aadhar enabled system, self web care, security etc)	Can radiate multiple SSID	
Prepare tender template for selecting Wi-fi Partner	Provide active components to “Digital Bandhu”	Safety & Custody of wi-fi	
	Provide ISP license to “Digital Bandhu”	Marketing , sale ,collection & local support	
	Identification of “Digital Bandhu”	First line maintenance of ONT	

Integrated Approach

Using existing schemes of GOI

1. “MUDRA Yojna”
2. DBT (“Jan Dhan” Account)
3. Skill Development
4. Internet bandwidth procumbent by GOI

"Minimum government, maximum governance"

1. Total transparency – Almost no possibility of any leakage
2. Use of the world largest Electronics Platform
3. Flexible model
4. Speedy implementation
5. Integrated approach

Outcome of the proposed wi-fi model

- Achieve the target of on average 100 Broadband customers in each GPs
- Massive Sustainable Self -employment generation (1.66 lakh direct & 1.5 million indirect)
- Hostistic approach for utilization of BharatNet infrastructure and also address 1st line maintenance of ONT at GP level
- Trigger the broadband eco-system and improve the e-services like e-governance, e-health, e-education, last mile internet connectivity to institutions

Why it is “Game changer”

<p>Internet BW Consumption increased by the proposed model (Min.)</p>	<p>1650 Gbps</p>	<p>* Govt institutions are not considered</p>
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GPs categorisation based on House Hold

% GPs with more than 5000 HHs per GP	0.5%
% GPs with 3000 to 5000 HHs per GP	2.28%
% GPs with 1500 to 3000 HHs per GP	11%
% GPs with 500 to 1500 HHs per GP	53%
% GPs with 500 or less HHs per GP	34%

Total Out flow including DBT to customers

No of GPs	Per GP fund flow	Expenditure per GP in Crore (Rs)	
1,65,000	405362	6874	Expenditure for 66% bigger GPs
85000	12000	102	For remaining 34% smaller GPs
2,50,000		6976	

Fund Flow (y-by-y) to Different stakeholders (Cr)

Yojna /Schemes	1st Y	2nd Y	3rd Y	4th Y	5th Y	Total
Mudra Youjna (Bank -Digital Bandhu)	2475	0	0	0	0	2475
ONT FLM etc(GOI-Digital Bandhu)	396	396	396	396	396	1980
Jan Dhan Account throught DBT (GOI -Customer)	446	589	416	236	0	1686
Internet BW (GOI-BSNL/TSP/ISP)	452	687	571	395	200	2305
Colocation Charges(GOI-TSPs)	223	223	149	149	149	891
Active components (Aps etc.)	644	99	99			842
Wi-Fi Provider for PM, Online portal, NOC, Training management, security audit & compliance, license (from GOI)	173	272	426	485	545	1901
Local Manufacturing	1832					1832
Skill Ministry	165	165	165	165	165	825
Total	6804	2431	2221	1825	1454	14736

Village Institutions – Potential Beneficiaries

Institutions	Location	Total Number approx. (below Block level)
CSC-SPV /GPE(Digital Bandhu)	GP	2,50,000
Gram Panchayats	GP	2,50,000
Secondary Schools	GP	1,31,300
Sr Secondary Schools	BHQ/GP	1,02,600
Primary Health Centres	GP	24,049
Community Health Centres	BHQ	4833
Post Offices	GP	1,39,144
Anganwadis	GP/Village	14,00,000
Police Stations	BHQ/GP	18,000

Thanks

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