

# Appendix: Impact Potential Methodology

We have quantified the potential impact of 10 NODEs in sectors such as health, education, agriculture, state service delivery, etc. The estimated impact potential is expected to accrue by 2030, assuming benchmark adoption rates. In principle, there will be an adoption curve (with continued adoption post 2030), as well as recurring benefits for adopters. Further, there are likely to be additional use cases for each NODE beyond what we have considered. This could lead to potentially greater impact.

The following 5-step approach has been taken to assess the economic impact associated with the 10 high potential NODEs.

- 01 Identified key drivers of impact for each NODE based on a set of use cases.
- 02 Determined expected platform adoption rates by 2030 and the consequent incremental value or savings, based on a range of Indian and global benchmarks.
- 03 The actual 2020 scenario (or the most recently reported) has been used as the base case (for example, farmer income or total expenditure across all social protection schemes) to project the 2030 base value (accounting for expected inflation only).
- 04 Calculated the impact of each driver on the base value (for example, percentage increase in farmer income due to higher productivity for all adopting farmers) and estimate the economic impact [product of (ii) and (iii) above].
- 05 Summed across all drivers to estimate the overall impact created by each NODE by 2030.

The table below outlines the data, assumptions, and sources leveraged for the computation of the economic, societal, and governance impact of 10 high potential NODEs.

ODE	Base Value in 2020	Assumptions		Impact by 2030	Sources
		Impact Drivers	Platform Adoption		
Agri NODE	<ul style="list-style-type: none"> <li>• Average annual farmer income – INR 1,20,000</li> <li>• Number of farmers–13.6 crore</li> <li>• Market value of all crops – USD 210 billion</li> <li>• Non-institutional credit for agriculture – USD 117 billion</li> </ul>	<ul style="list-style-type: none"> <li>• 10-20 percent price improvement due to better access to the marketplace</li> <li>• 10-30 percent improvement in productivity with effective crop advisory services</li> <li>• 10-15 percent interest rate savings as credit moves towards institutional sources</li> </ul>	<ul style="list-style-type: none"> <li>• 20-50 percent adoption of e-marketplace</li> <li>• 10-30 percent adoption of crop advisory services</li> <li>• 40-60 percent shift from non-institutional to institutional credit</li> </ul>	<p>Economic impact:</p> <p>Approximately USD 60-90 billion (INR 5-7 lakh crore)</p> <p>Societal impact:</p> <p>1.5x+ increase in farmer income due to platform adoption</p>	<ul style="list-style-type: none"> <li>• <a href="#">Doubling Farmers Income by NITI Aayog</a></li> <li>• Benchmark adoption of agri platforms in India and resultant price improvement (for example, eNAM, Rashtriya e-Market Services [ReMS] in Karnataka)</li> <li>• <a href="#">Agriculture Economics Research Review study</a></li> <li>• <a href="#">All India Debt and Investment Survey 2013</a></li> </ul>

					<ul style="list-style-type: none"> <li>• <a href="#">World Development Perspectives study</a></li> <li>• Benchmark adoption of Kisan Credit Cards</li> <li>• Field surveys</li> </ul>
Talent NODE	<ul style="list-style-type: none"> <li>• Currently unemployed population – 30 million</li> <li>• Eligible out of labor force population (neither working nor available for work) – 300 million</li> <li>• Formal labor – 380 million</li> <li>• Casual labor – 130 million</li> <li>• Average wage per capita for formal labor – INR 1,60,000</li> <li>• Average wage per capita for casual labor – INR 50,000-60,000</li> </ul>	<ul style="list-style-type: none"> <li>• 5-15 percent decrease in unemployment rate due to improved job search and skilling services</li> <li>• 1-4 percent increase in labor force participation rate with platformization and gig economy services</li> <li>• 5-10 percent increase in wages for the formal workforce due to better job matching</li> <li>• 30-50 percent additional wages for casual labor due to upskilling, formalisation</li> </ul>	<ul style="list-style-type: none"> <li>• 20-40 percent platform adoption by the eligible workforce</li> <li>• 10-20 percent shift from casual to formal workforce</li> </ul>	<p>Economic impact: Approximately USD 150-200 billion (INR 11-15 lakh crore)</p> <p>Societal impact: 50-80 million people expected to be matched into better-fit jobs</p>	<ul style="list-style-type: none"> <li>• Oxford Economics</li> <li>• Euromonitor</li> <li>• World Bank data</li> <li>• Benchmark unemployment rates across countries</li> <li>• <a href="#">Periodic Labour Force Survey</a></li> <li>• <a href="#">State of Working India Report</a></li> <li>• Benchmark adoption and usage of platforms for job search in other countries</li> <li>• Estimated growth rate of gig economy jobs</li> <li>• <a href="#">India Wage Report by ILO</a></li> </ul>
State Service Delivery NODE	<ul style="list-style-type: none"> <li>• National benefits paid – USD 50 billion</li> <li>• State benefits paid – USD 20 billion</li> </ul>	<ul style="list-style-type: none"> <li>• 10-25 percent efficiency in targeting of benefits, reduction in fraud and leakages</li> </ul>	<ul style="list-style-type: none"> <li>• NA</li> </ul>	<p>Economic impact: Approximately USD 15-20 billion (INR 1-2 lakh crore)</p> <p>Governance impact: 20% more eligible citizens expected to be included in the social safety net</p>	<ul style="list-style-type: none"> <li>• Union Budget 2019</li> <li>• <a href="#">World Bank study</a></li> <li>• <a href="#">J-PAL study</a></li> <li>• State budgets</li> </ul>
MSME NODE	<ul style="list-style-type: none"> <li>• Unmet credit needs of MSMEs – USD 100 billion (40-50 percent MSMEs have unmet credit needs)</li> <li>• Credit needs fulfilled by non-institutional lenders – USD 280 billion</li> <li>• MSME Gross Value Added–USD 617 billion</li> </ul>	<ul style="list-style-type: none"> <li>• 1-3x incremental output ratio realized with access to new credit</li> <li>• 5-10 percent interest rate savings due to a shift to institutional lending</li> <li>• 10-20 percent price improvement with access to marketplace</li> </ul>	<ul style="list-style-type: none"> <li>• 50 percent of MSMEs already adopting digital tools for business needs</li> <li>• 40-60 percent credit gap narrowed by digital lending</li> </ul>	<p>Economic impact: Approximately USD 150-200 billion (INR 11-15 lakh crore)</p> <p>Societal impact: 10-20 million MSMEs expected to be included in the formal financial system</p>	<ul style="list-style-type: none"> <li>• <a href="#">Credit Disrupted by ONI and BCG</a></li> <li>• International Finance Corporation data</li> <li>• <a href="#">Policy Guidelines by Indus Bank</a></li> <li>• <a href="#">Ministry of MSME and Confederation of Indian Industry paper</a></li> <li>• Benchmark price improvement due to better marketplace access</li> </ul>

Education NODE	<ul style="list-style-type: none"> <li>Total dropouts (Grade VII and X) – 80 million</li> </ul>	<ul style="list-style-type: none"> <li>10-20 percent wage increase for dropouts who stay in school</li> </ul>	<ul style="list-style-type: none"> <li>20-40 percent platform adoption</li> </ul>	<p>Economic impact:</p> <p>Approximately USD 40-60 billion (INR 3-5 lakh crore)</p> <p>Societal impact:</p> <p>15-25 million student drop outs expected to stay in school</p>	<ul style="list-style-type: none"> <li>National Institute of Education Planning and Administration</li> <li><a href="#">World Economic Forum study</a></li> <li>Benchmark adoption and usage of DIKSHA platform</li> </ul>
Law and Justice NODE	<ul style="list-style-type: none"> <li>Value of Judicial delays – USD 8 billion</li> </ul>	<ul style="list-style-type: none"> <li>20-40 percent efficiency gain in judicial processing time, reducing delays</li> </ul>	<ul style="list-style-type: none"> <li>NA</li> </ul>	<p>Economic impact:</p> <p>Approximately USD 3-6 billion (INR 0.2-0.5 lakh crore)</p> <p>Governance impact:</p> <p>2-6 million court cases that have been pending 3+ years to be resolved</p>	<ul style="list-style-type: none"> <li><a href="#">World Bank Ease of Doing Business Report 2019</a></li> <li><a href="#">Economic Survey 2018-19</a></li> </ul>
E-Land Records NODE	<ul style="list-style-type: none"> <li>Value of land investment affected by disputes – USD 200 billion</li> <li>6.7 million people affected by land disputes</li> </ul>	<ul style="list-style-type: none"> <li>5-15 percent reduction in disputes due to greater transparency, faster dispute resolution, better planning</li> </ul>	<ul style="list-style-type: none"> <li>NA</li> </ul>	<p>Economic impact:</p> <p>Approximately USD 30-50 billion (INR 2-4 lakh crore)</p> <p>Societal impact:</p> <p>One million people and 250,000 hectares of land expected to be in resolved land conflicts</p>	<ul style="list-style-type: none"> <li><a href="#">Land Conflict Watch</a></li> <li><a href="#">Finance Research Group (Indira Gandhi Institute of Development Research) report</a></li> </ul>
Connected Logistics NODE	<ul style="list-style-type: none"> <li>Current spend on logistics – USD 406 billion</li> </ul>	<ul style="list-style-type: none"> <li>5-15 percent efficiency due to digitized processes, better price discovery, increased government efficiency in logistics spend</li> </ul>	<ul style="list-style-type: none"> <li>NA</li> </ul>	<p>Economic impact:</p> <p>Approximately USD 60-80 billion (INR 5-6 lakh crore)</p>	<ul style="list-style-type: none"> <li>Department of Commerce</li> <li><a href="#">World Economic Forum study</a></li> </ul>
Health NODE	<ul style="list-style-type: none"> <li>Pradhan Mantri Jan Arogya Yojana (PMJAY) eligible households–100 million</li> </ul>	<ul style="list-style-type: none"> <li>20-30 percent additional coverage with accessible health records</li> <li>Universal healthcare coverage shown to increase life expectancy by 3-5 years</li> <li>3-5 healthcare visits per year per family</li> <li>Expected savings per visit – INR 5,000</li> </ul>	<ul style="list-style-type: none"> <li>NA</li> </ul>	<p>Economic impact:</p> <p>Approximately USD 8-15 billion (INR 0.6-1 lakh crore)</p> <p>Societal impact:</p> <p>1-3+ year increase in life expectancy</p>	<ul style="list-style-type: none"> <li>PMJAY</li> <li>Benchmarks for health care coverage globally</li> <li><a href="#">Practo survey</a></li> <li><a href="#">Frontiers in Pharmacology study</a></li> <li>Field surveys</li> </ul>

<p>Urban Governance NODE</p>	<ul style="list-style-type: none"> <li>• INR 5000-6000 per person revenue generation opportunity from smart governance</li> </ul>	<ul style="list-style-type: none"> <li>• 80-100 million additional people living in smart cities</li> </ul>	<ul style="list-style-type: none"> <li>• NA</li> </ul>	<p>Economic impact:</p> <p>Approximately USD 10-15 billion (INR 0.75-1 lakh crore)</p> <p>Governance impact:</p> <p>100+ hours of time per person per year expected to be saved due to smart mobility solutions</p>	<ul style="list-style-type: none"> <li>• <a href="#">Economic Survey 2016-17</a></li> <li>• <a href="#">Smart Cities Mission</a></li> <li>• <a href="#">Juniper Research study</a></li> <li>• Benchmark research on efficiency gains and time savings in India and global cities</li> </ul>
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