



Funding Model for Large-Scale (1:5,000) Base Map Production in Indonesia

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Outline

1. Introduction
2. Research Question
3. Methodology
4. Funding Model for Large-Scale (1:5,000) Base Map Production in Urban Area

5. Finding Strategic Partners
6. Conclusion and Recommendation
7. Limitation and Further Research

1. Introduction



20%
 169 targets
 232 indicators



10 out of 14 themes of basic geospatial information can be represented and visualized in the base map

1:50,000 Base map : 75%

1:25,000 Base map : 30%

Sustainable cities : large-scale (1:5,000) base maps

1. Introduction

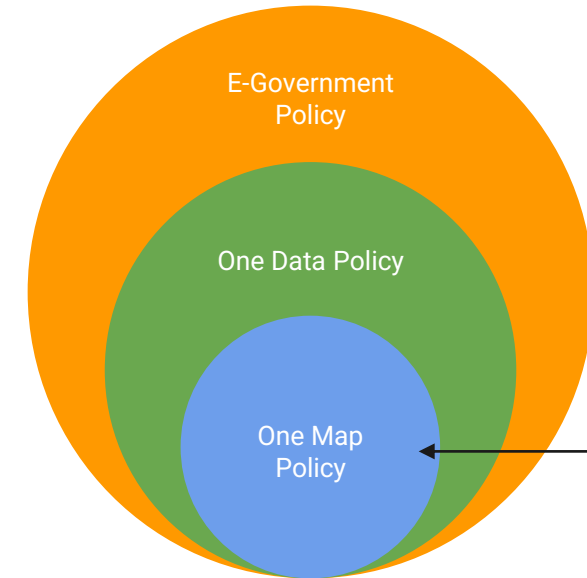
The Indonesian government established SDGs regulation in presidential decree No. 58 / 2018 about SDGs to be achieved by 2030

The Indonesian government has a vision to be a prosperous nation by **2045**. Focus on four pillars of development:

1. Improve human capital index
2. Sustainable economic development
3. Equitable regional development
4. Strengthening national governance

Periodical Term Plan

Thematic, Holistic, Integrated and **Spatial**



Large-scale thematic data

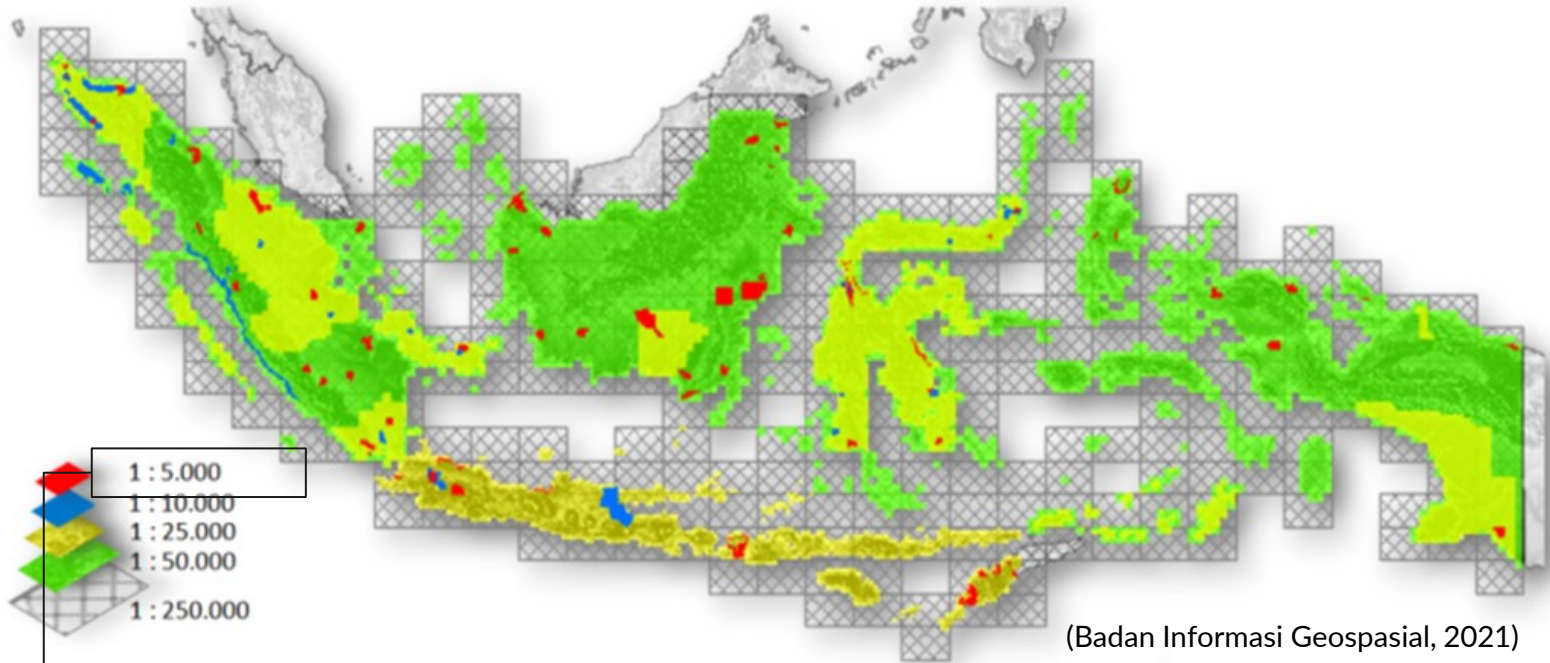
Esp. Detailed spatial plan map

3.6%

Large-scale base map

Acceleration of One Map Policy 2.0 (2021) focus on the provision of large-scale data

1. Introduction



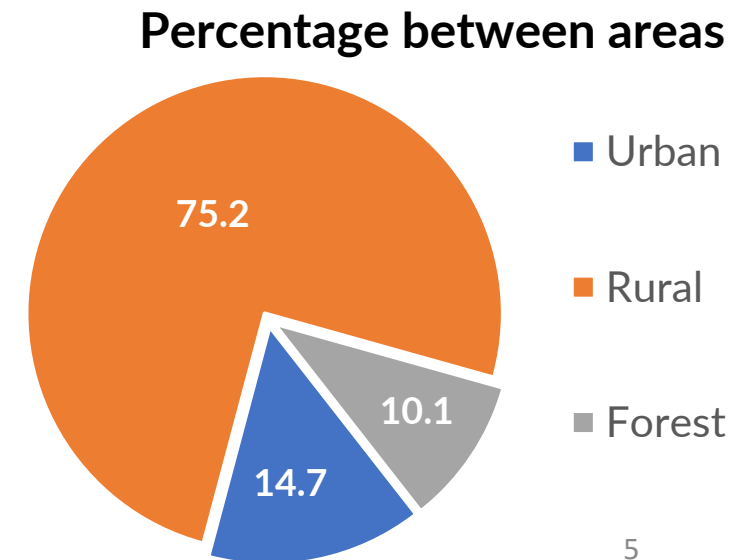
2.7% available

70% of detailed spatial plan maps needed in urban area

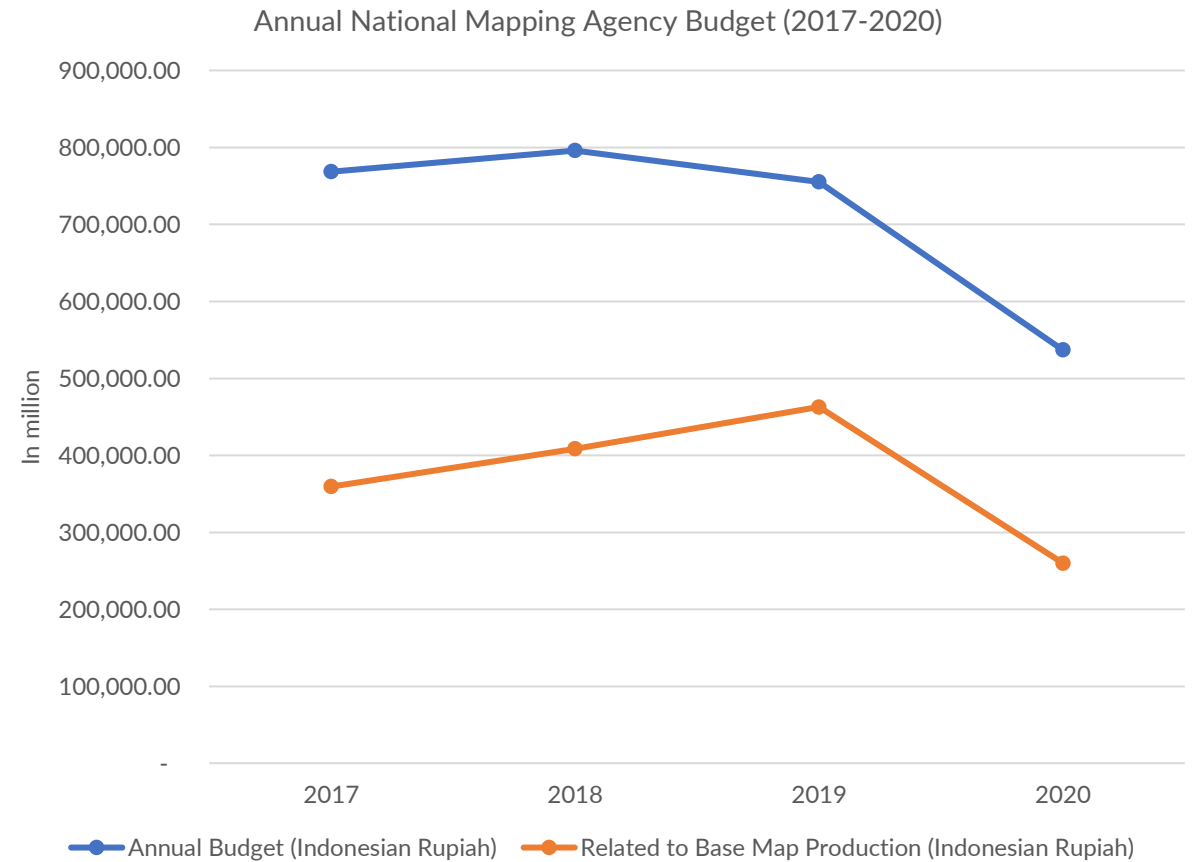
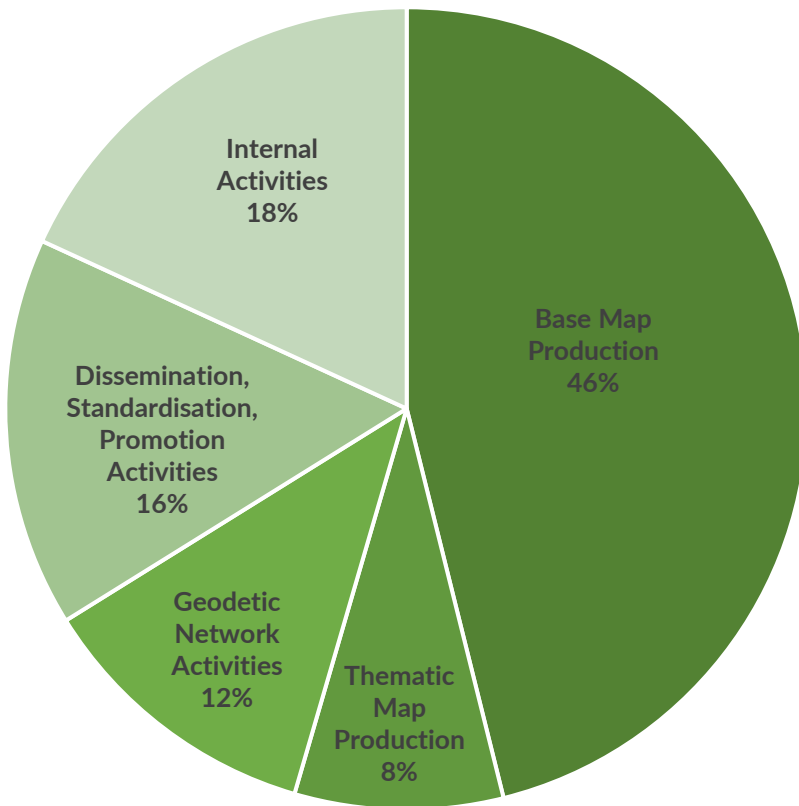
Geospatial Information Act (2011) mandates the NMA (Geospatial Information Agency) to provide nationwide base map

The NMA focus on the refinement of:

1. Technology
2. Legal
3. Funding



1. Introduction



(Badan Informasi Geospasial, 2018b, 2019a, 2020a, 2021a)



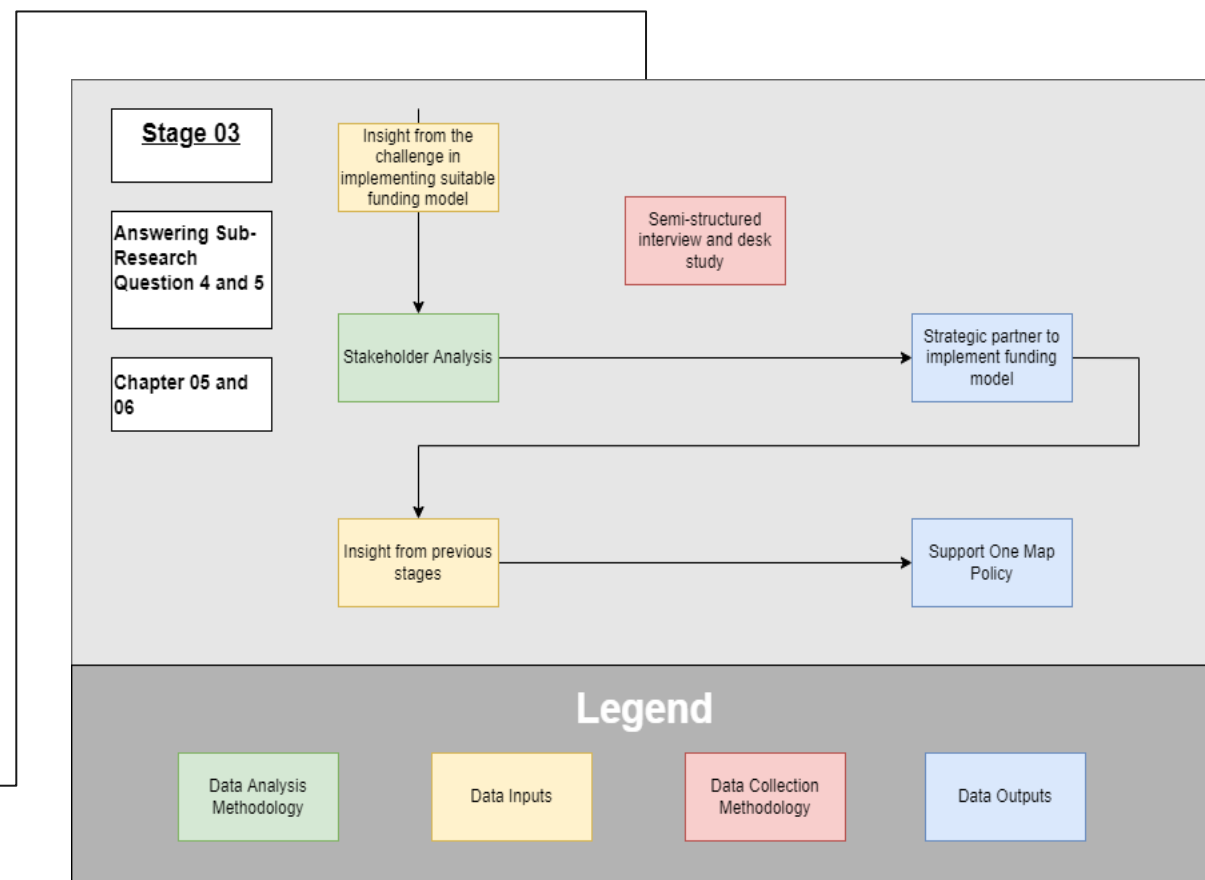
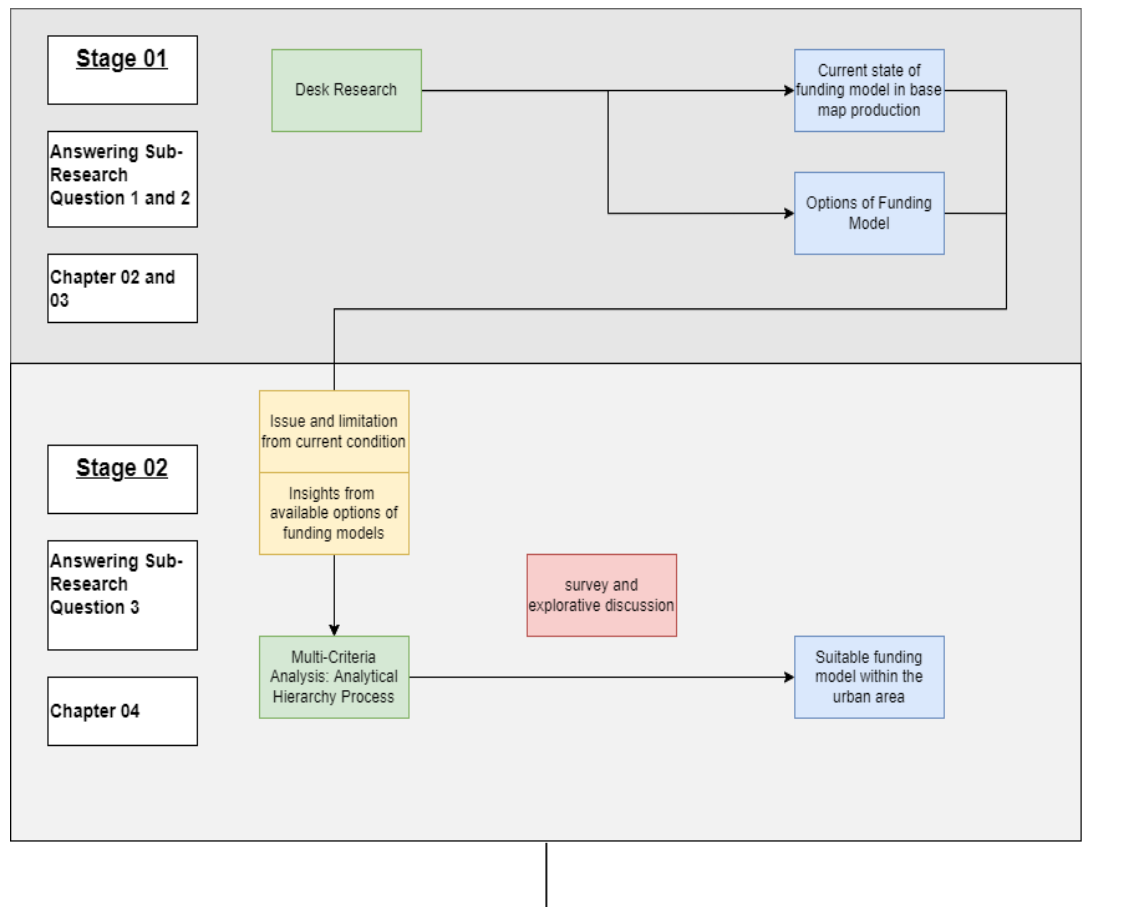
2. Research Question

"Which funding model may allow the Indonesian government to fund the production of large-scale (1:5,000) base maps in urban areas in a financially durable manner?"

Sub-research question:

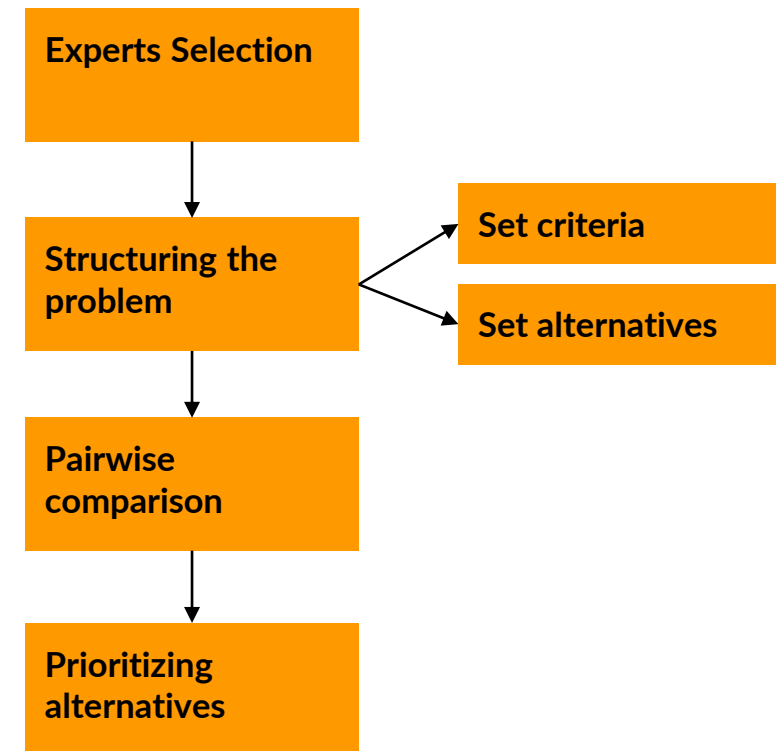
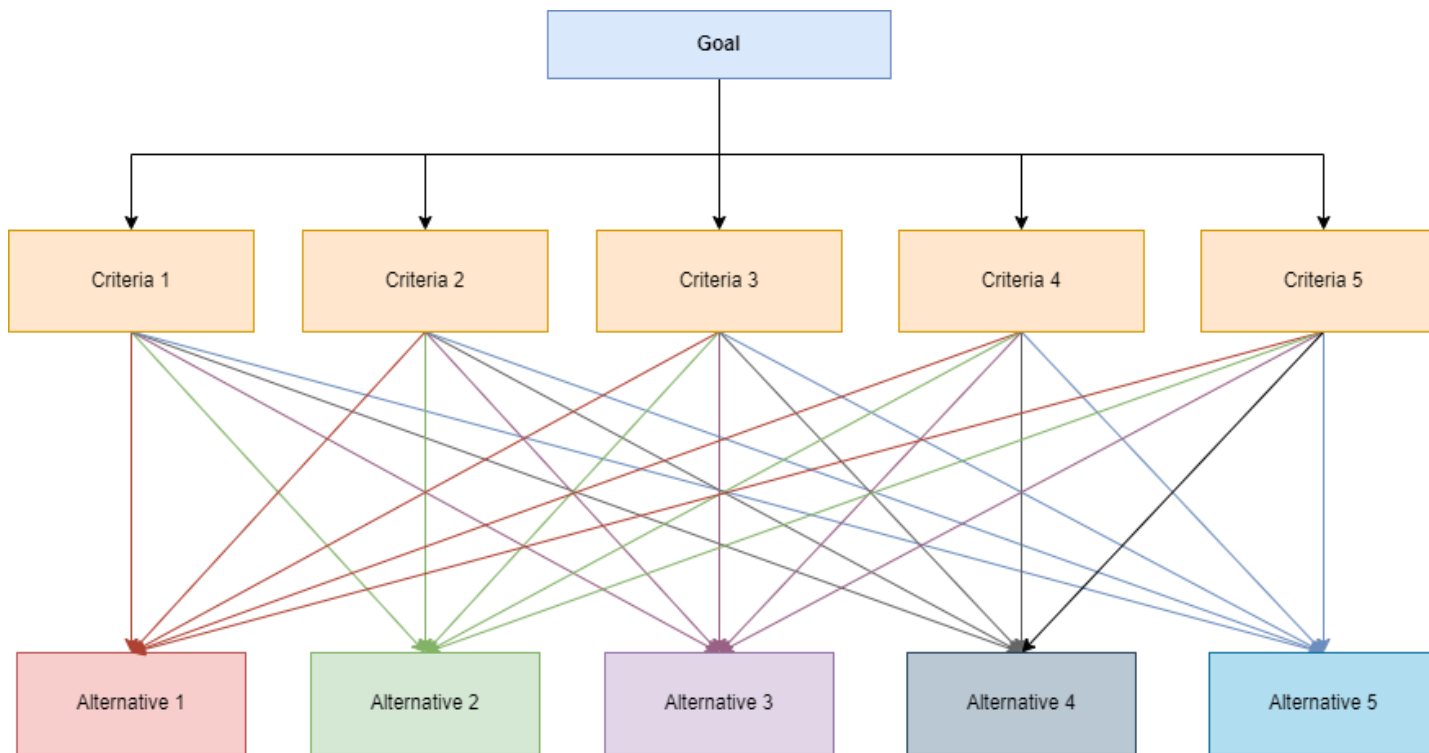
- What is the current funding model for large-scale (1:5,000) base map production in Indonesia?
- What funding models are available for large-scale (1:5,000) base map production?
- Which funding model is suitable for large-scale (1:5,000) base map production in urban areas?
- To what extent do stakeholders need to be involved in the funding model of large-scale (1:5,000) base map production in urban areas?
- To what extent does the funding model schema support the One Map Policy in terms of data sharing and access to the public?

3. Methodology



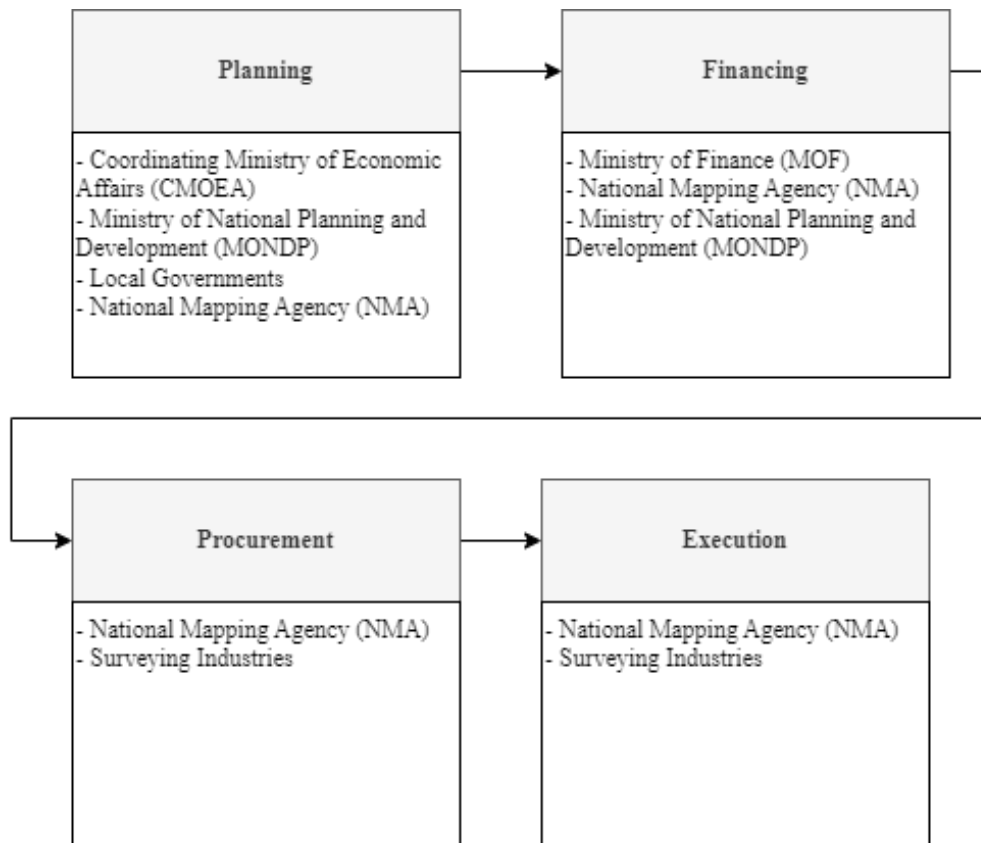
3. Methodology

Analytical Hierarchy Process



3. Methodology

Data Collection: survey form, direct observation

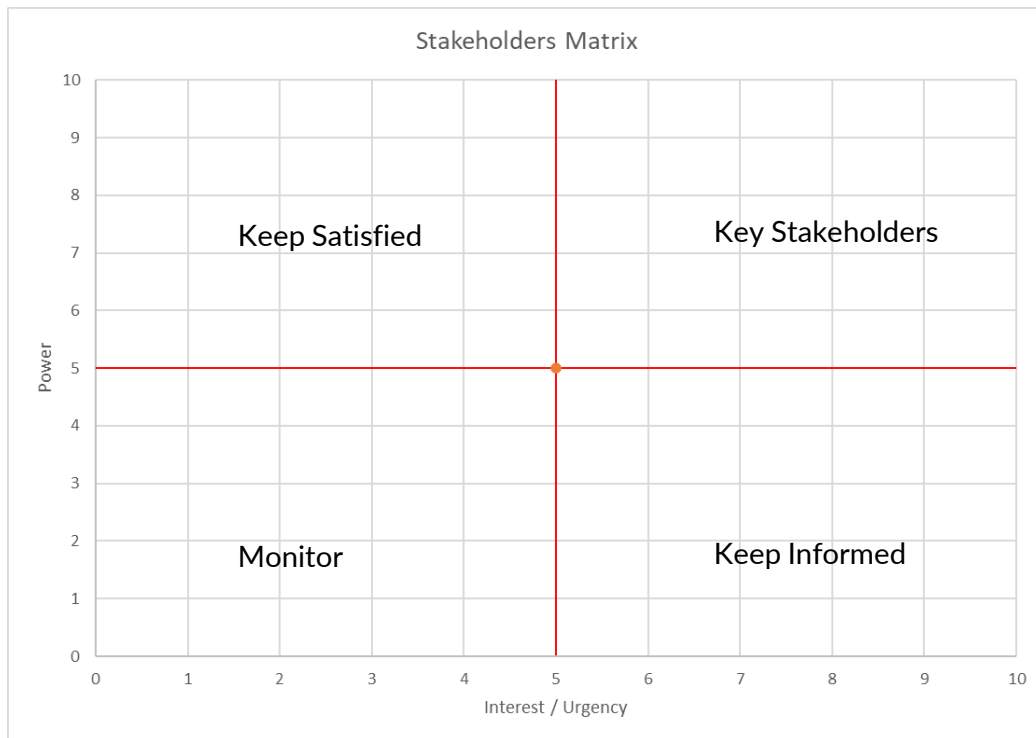


INSTITUTION	POSITION
COORDINATING MINISTRY OF ECONOMIC AFFAIRS	COORDINATOR OF PUBLIC POLICY ANALYST
MINISTRY OF NATIONAL DEVELOPMENT AND PLANNING	COORDINATOR OF INNOVATIVE FUNDING DEVELOPMENT FOR PUBLIC PROGRAM
MINISTRY OF FINANCE	HEAD OF BUDGET FINANCING AND ACCOUNTING
	HEAD OF NATIONAL GOVERNMENT BOND
NATIONAL MAPPING AGENCY	HEAD OF GI INSTITUTIONAL FRAMEWORK
	HEAD OF SPATIAL PLANNING MAP
	HEAD OF LEGAL AND LAW
SURVEYING INDUSTRY	CHAIRMAN OF SURVEYING INDUSTRY ASSOCIATION
LOCAL GOVERNMENT	HEAD OF CADASTER AND MAPPING
	HEAD OF SPATIAL DATA AND INFORMATION

3. Methodology

Stakeholder Analysis

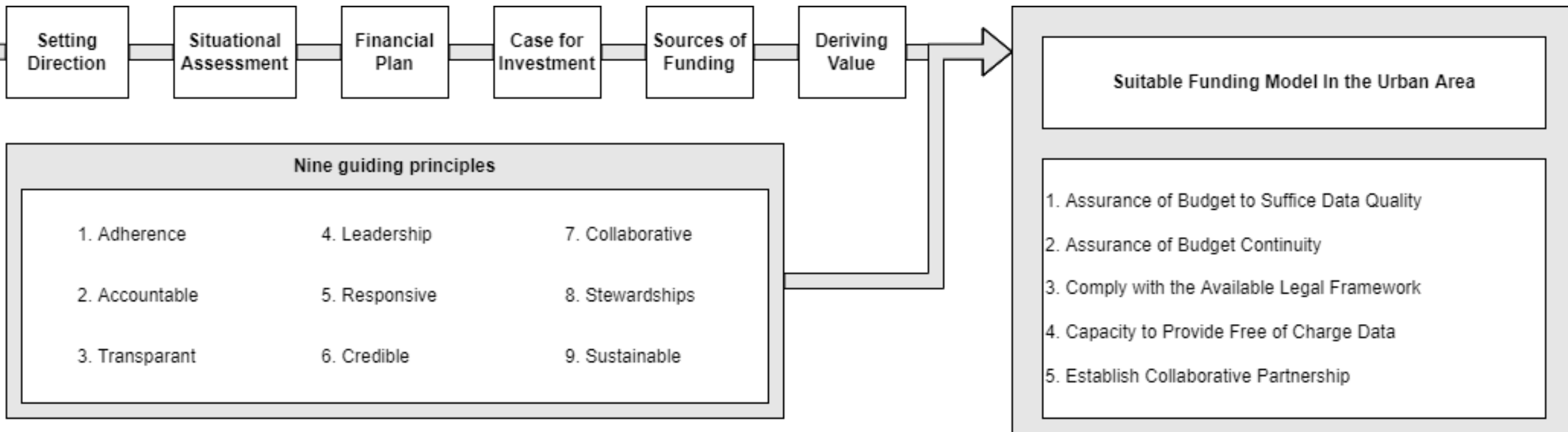
Data Collection: semi-structured interview and official documents



STAKEHOLDER		POSITION	ROLE
Coordinating Ministry of Economic Affairs		Assistant Deputy of Regional Development and Spatial Planning	Chairman of OMP team
National Agency	Mapping	Head of Topographic and Geographical Names Division	Chairman of OMP executive team
Ministry of National Development and Planning		Directorate of Spatial Planning, Cadaster and Disaster Management	Vice Chairman of OMP executive team
Ministry of Maritime and Investment		Assistant Deputy of Marine and Coastal Spatial Management	Vice Chairman of OMP executive team
Cabinet Secretary		Assistant Deputy of Regional and Industry Development	Vice Chairman of OMP executive team

4. Funding Model AHP

Set Criteria



UN-GGIM,
Financial Strategic Pathway

Criteria

4. Funding Model AHP

Set Alternatives

Uses

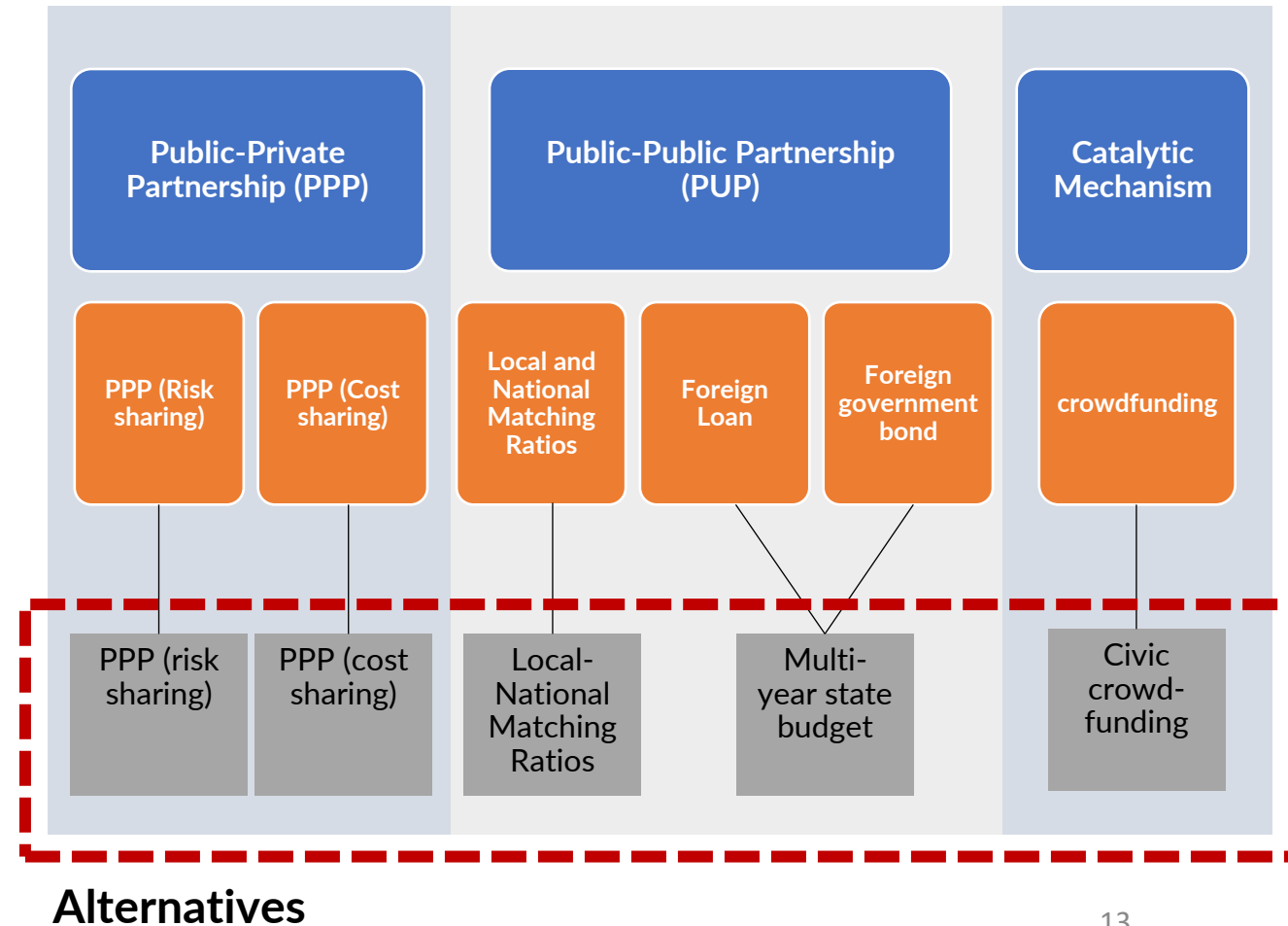
Public

Private

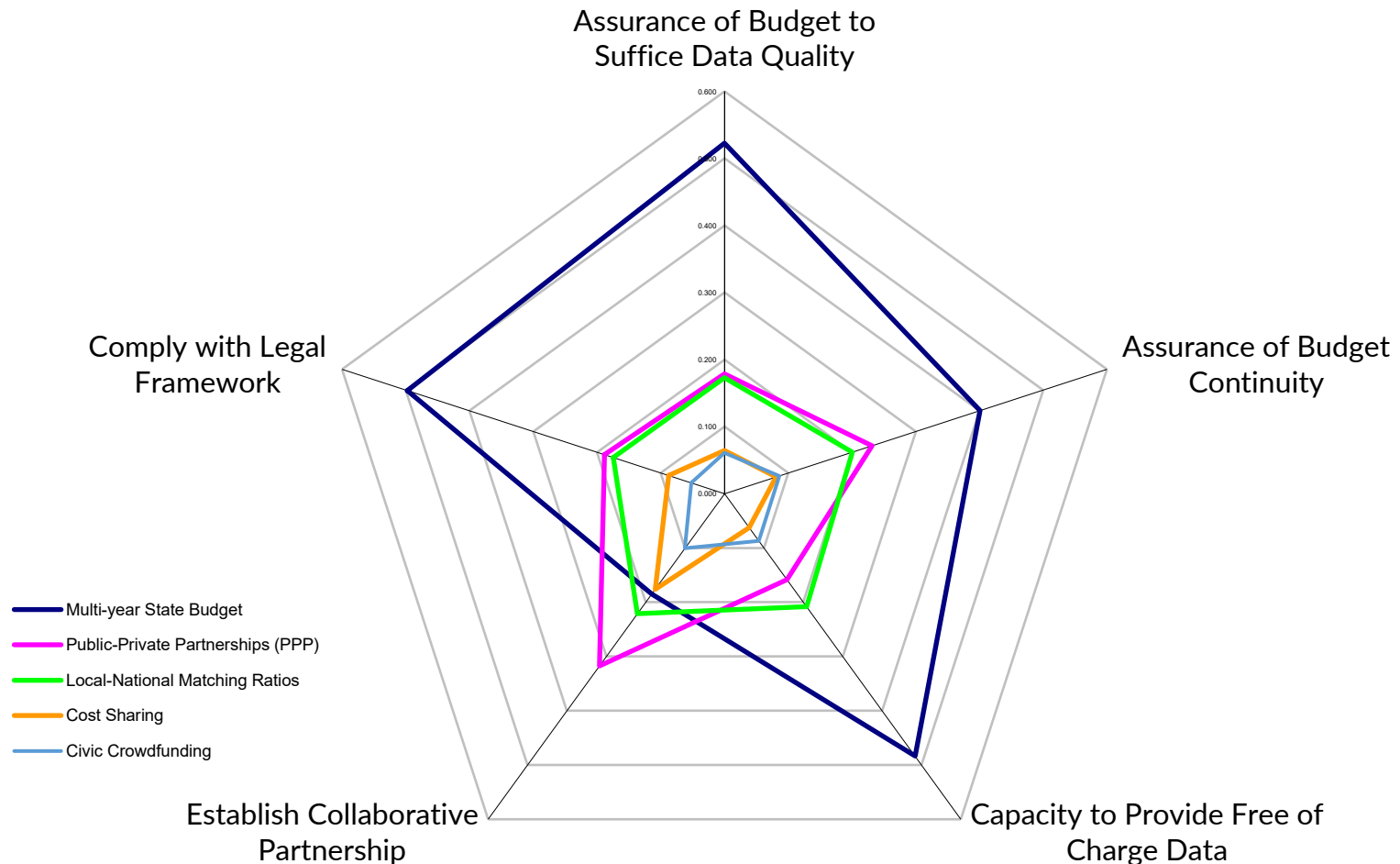
	<i>Public</i>	Public-Private Partnerships Public and private finance for public service delivery	Pure Private Private finance
<i>Private</i>			
	<i>Public</i>	Public-Public Partnerships Public to-public transfers based on solidarity	Catalytic Public support to boost the development of local activity
<i>Public</i>			

Sources

World Bank,
Innovative Funding Model



4. Funding Model Result

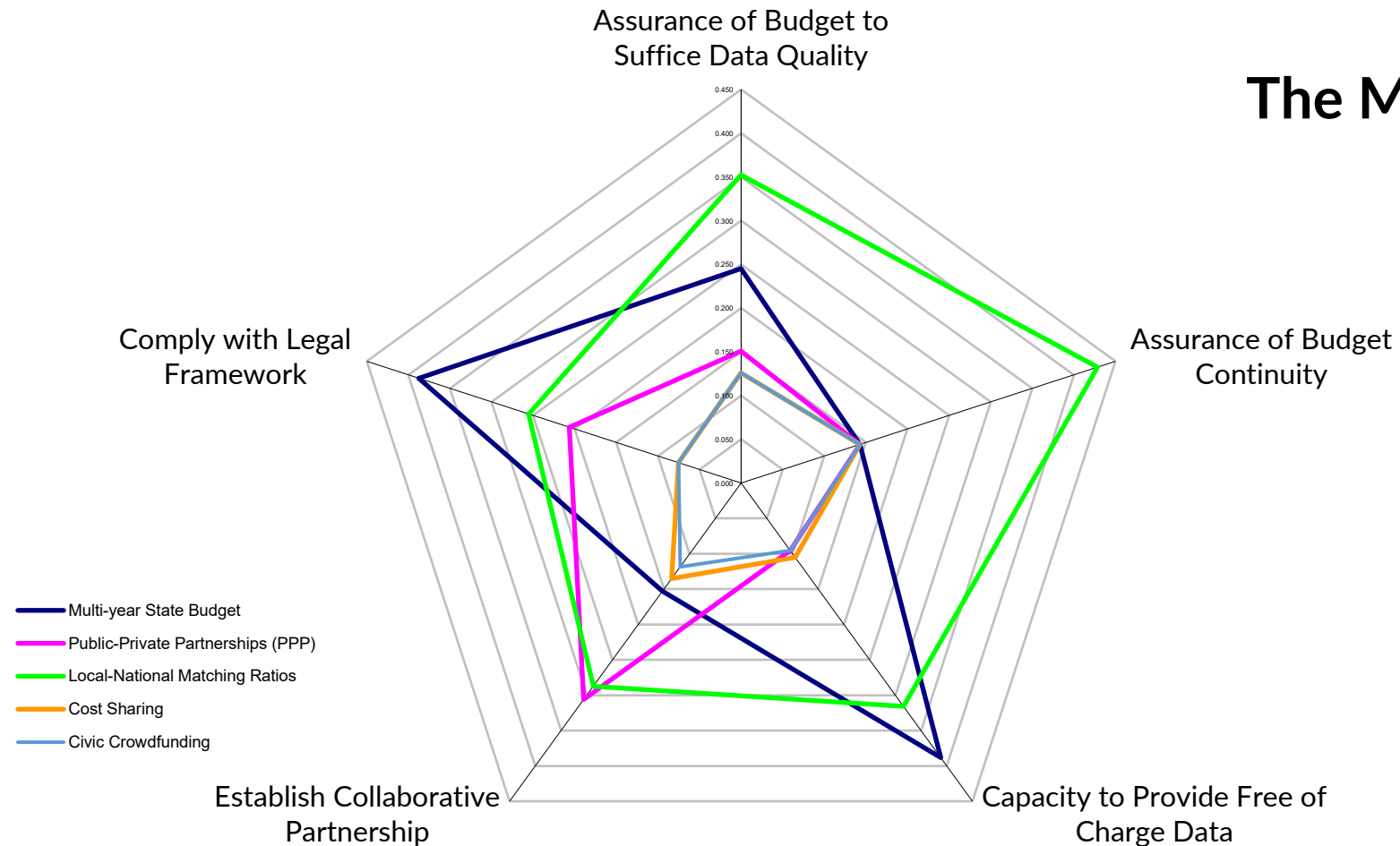


The NMA Perspectives

Rank of Alternatives		
Multi-Year State Budget Funding	1	0.465
Public-Private Partnerships (PPPs)	2	0.199
Local-National Matching Ratios	3	0.185
Cost-Sharing	4	0.079
Civic Crowdfunding	5	0.070
Sensitivity Analysis		0.090

Conservative idea
National government lead

4. Funding Model

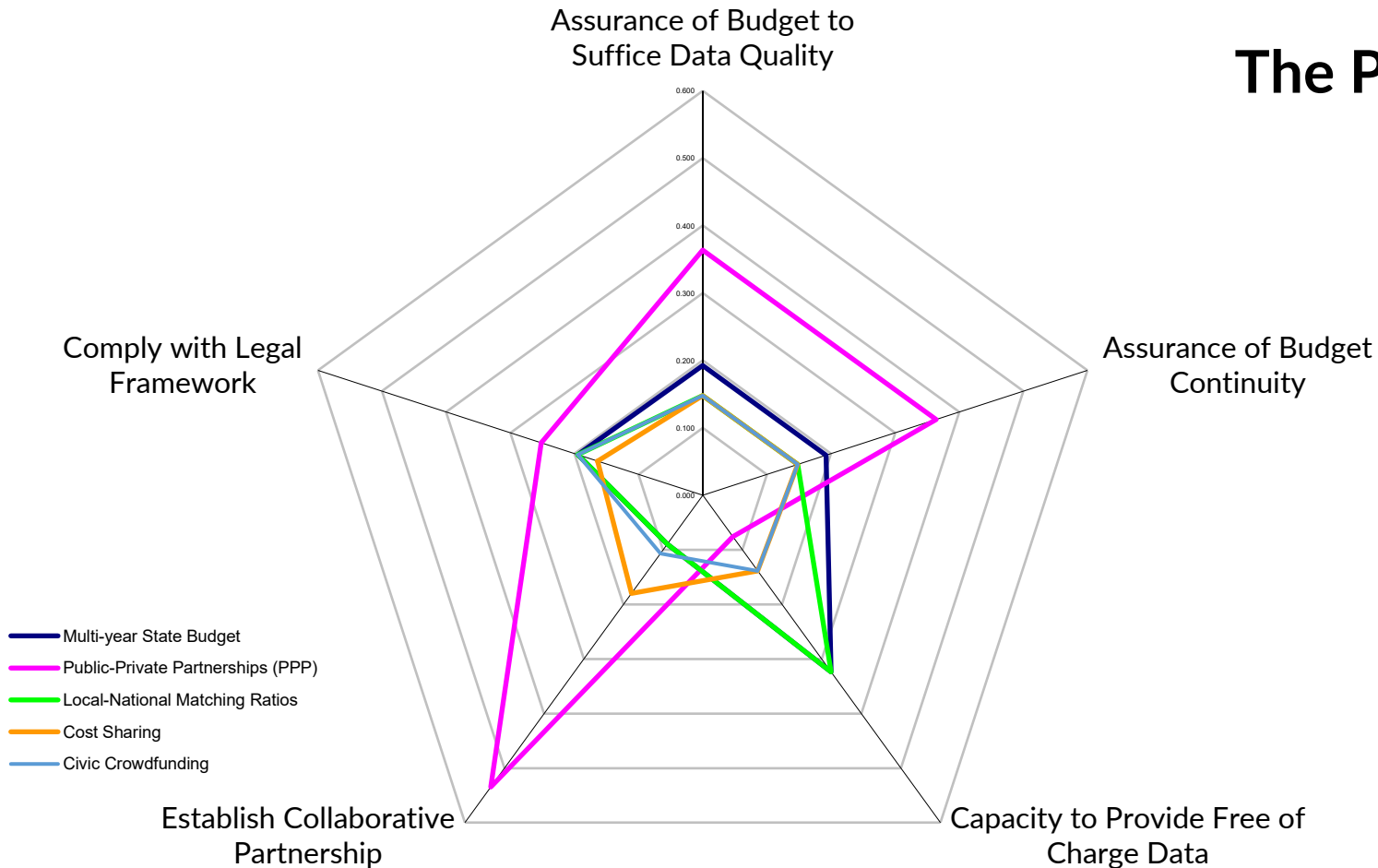


The Ministry of Finance Perspectives

Rank of Alternatives		
Multi-Year State Budget Funding	2	0.247
Public-Private Partnerships (PPPs)	3	0.192
Local-National Matching Ratios	1	0.328
Cost-Sharing	4	0.119
Civic Crowdfunding	5	0.114
Sensitivity Analysis		0.030

Decentralization
Diverse fiscal capacity

4. Funding Model

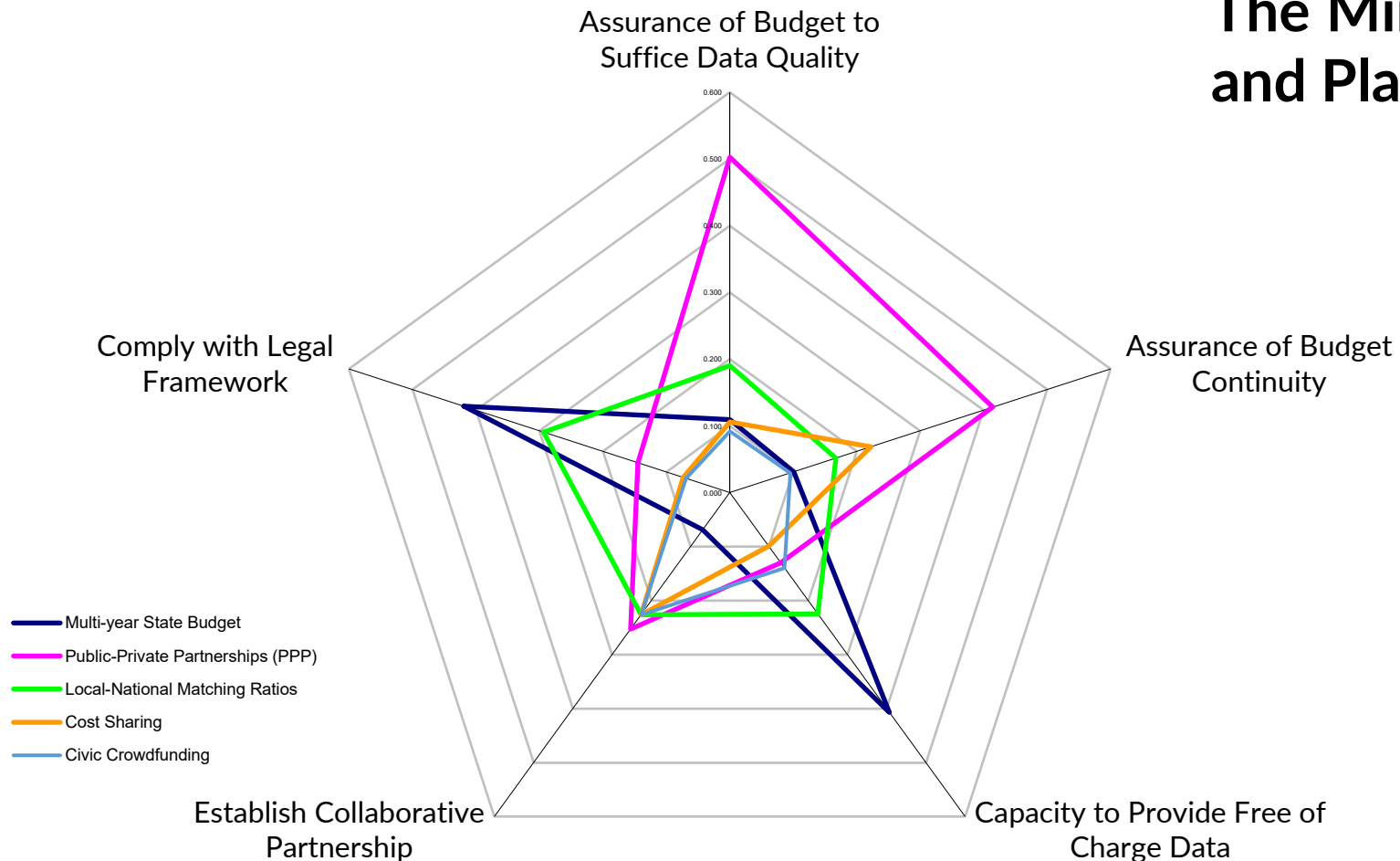


The Private Industries Perspectives

Rank of Alternatives		
Multi-Year State Budget Funding	2	0.182
Public-Private Partnerships (PPPs)	1	0.344
Local-National Matching Ratios	3	0.166
Cost-Sharing	4	0.159
Civic Crowdfunding	5	0.148
Sensitivity Analysis		0.03

**State-owned enterprise
Promote the use of PPP**

4. Funding Model



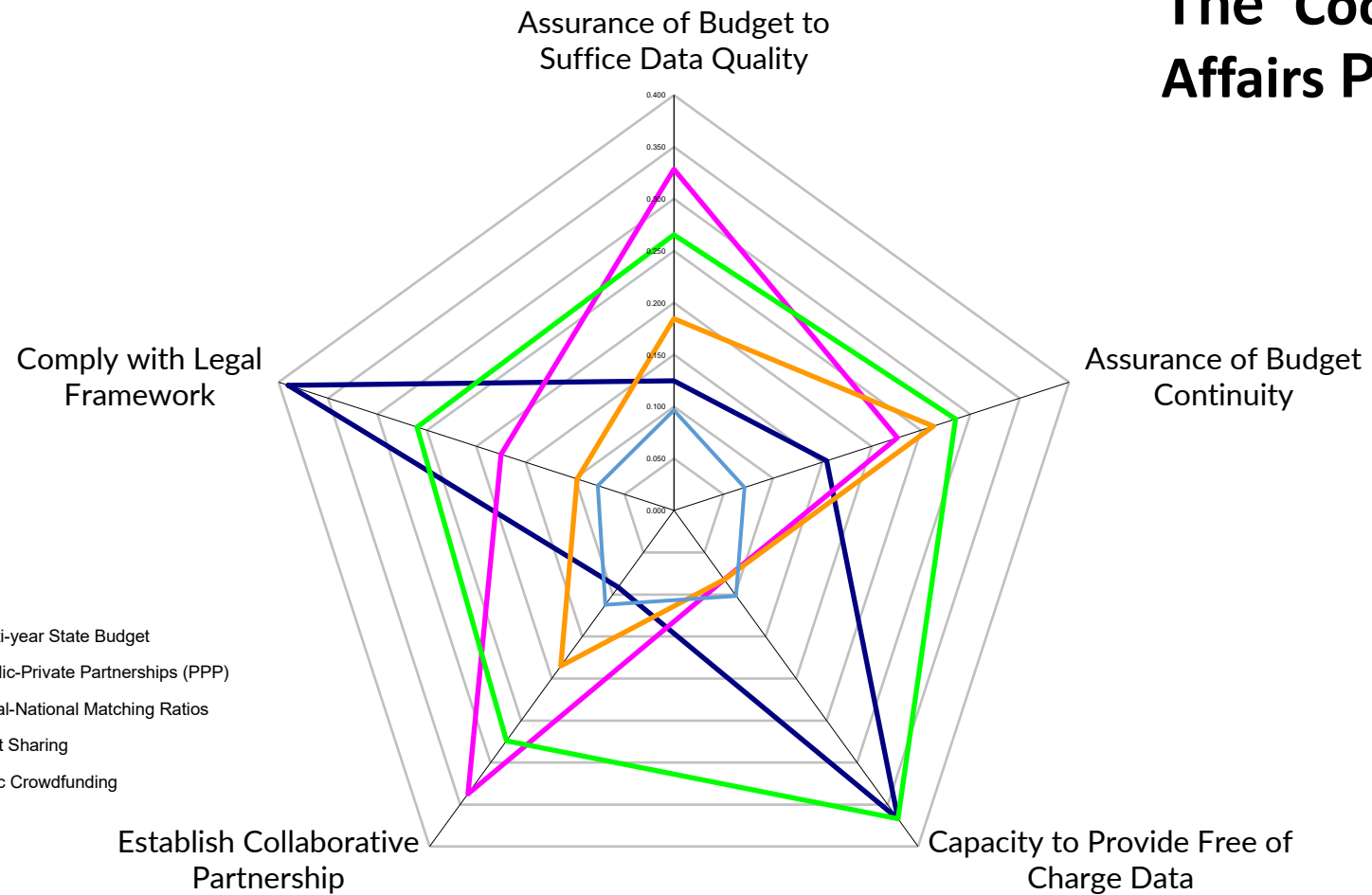
The Ministry of National Development and Planning Perspectives

Rank of Alternatives		
Multi-Year State Budget Funding	3	0.198
Public-Private Partnerships (PPPs)	1	0.303
Local-National Matching Ratios	2	0.218
Cost-Sharing	4	0.155
Civic Crowdfunding	5	0.127
Sensitivity Analysis		0.057

Promote innovative model
Urge to set regulation

4. Funding Model

The Coordinating Ministry of Economic Affairs Perspectives

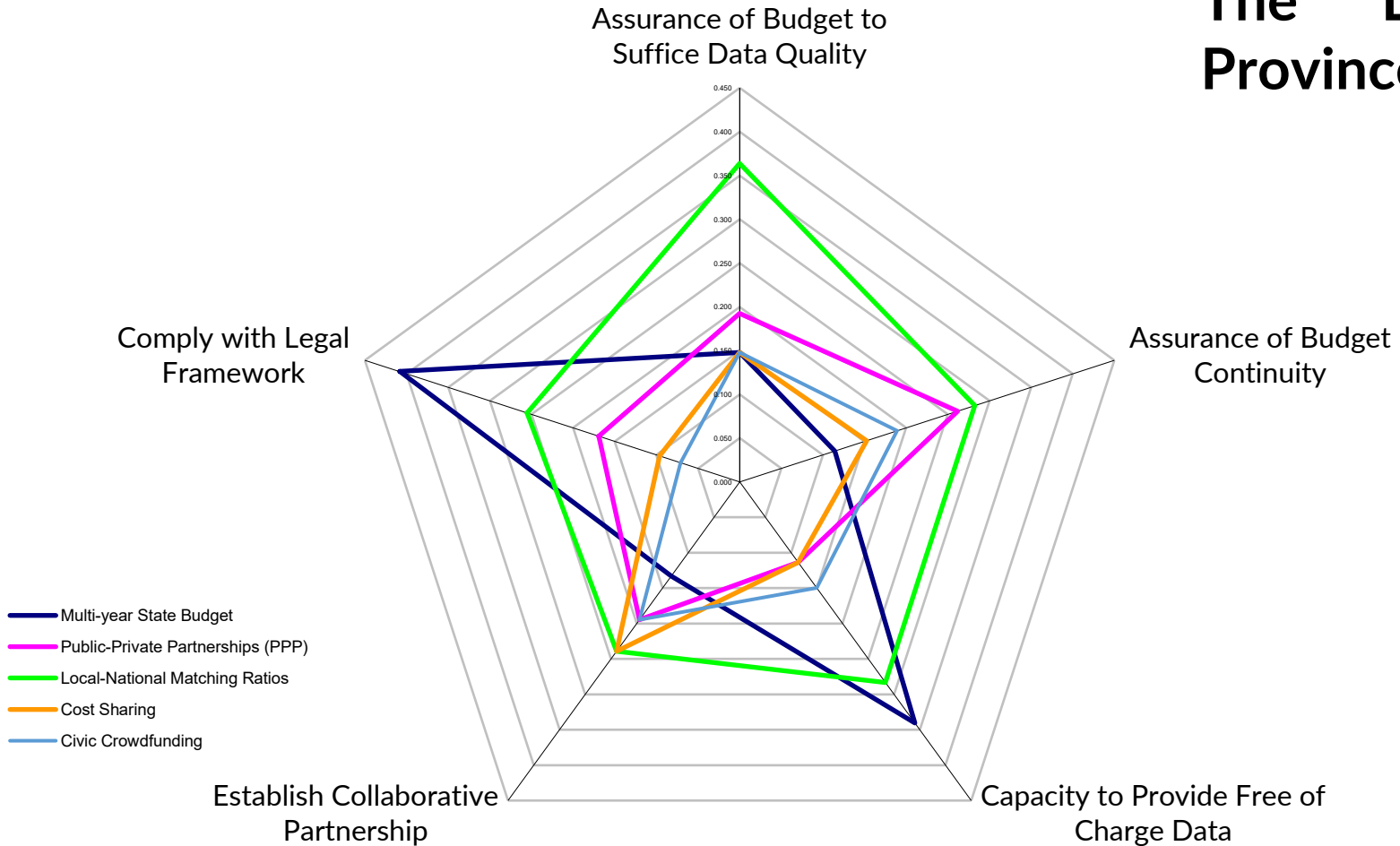


Rank of Alternatives		
Multi-Year State Budget Funding	3	0.215
Public-Private Partnerships (PPPs)	2	0.246
Local-National Matching Ratios	1	0.281
Cost-Sharing	4	0.167
Civic Crowdfunding	5	0.091
Sensitivity Analysis		0.060

Similar to Ministry of Finance

4. Funding Model

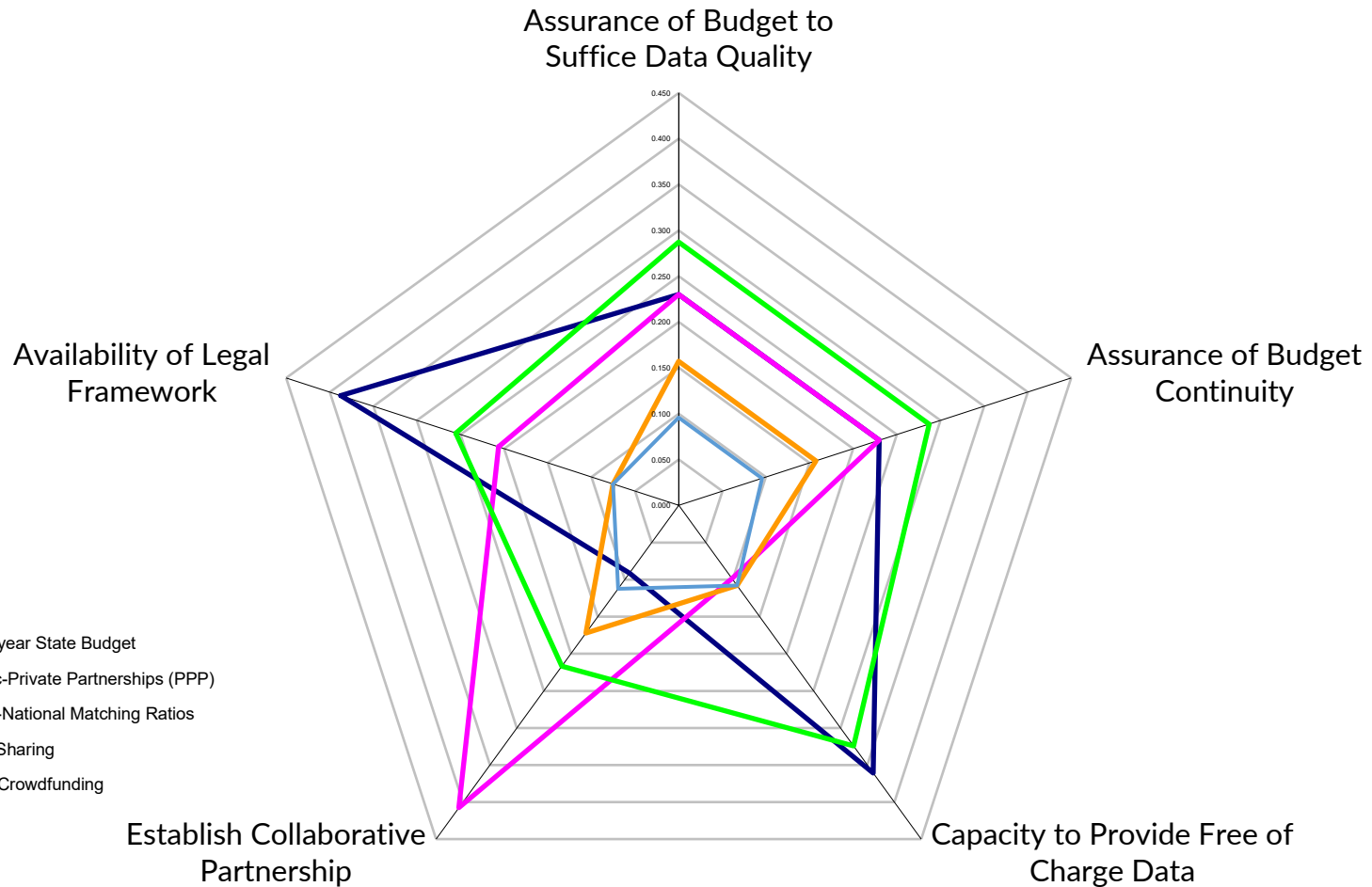
The Local government (Jakarta Province) Perspectives



Rank of Alternatives		
Multi-Year State Budget Funding	2	0.285
Public-Private Partnerships (PPPs)	3	0.171
Local-National Matching Ratios	1	0.285
Cost-Sharing	4	0.127
Civic Crowdfunding	5	0.132
Sensitivity Analysis		0.033

Deliver data to public
Improve public service
Local leader commitment

4. Funding Model

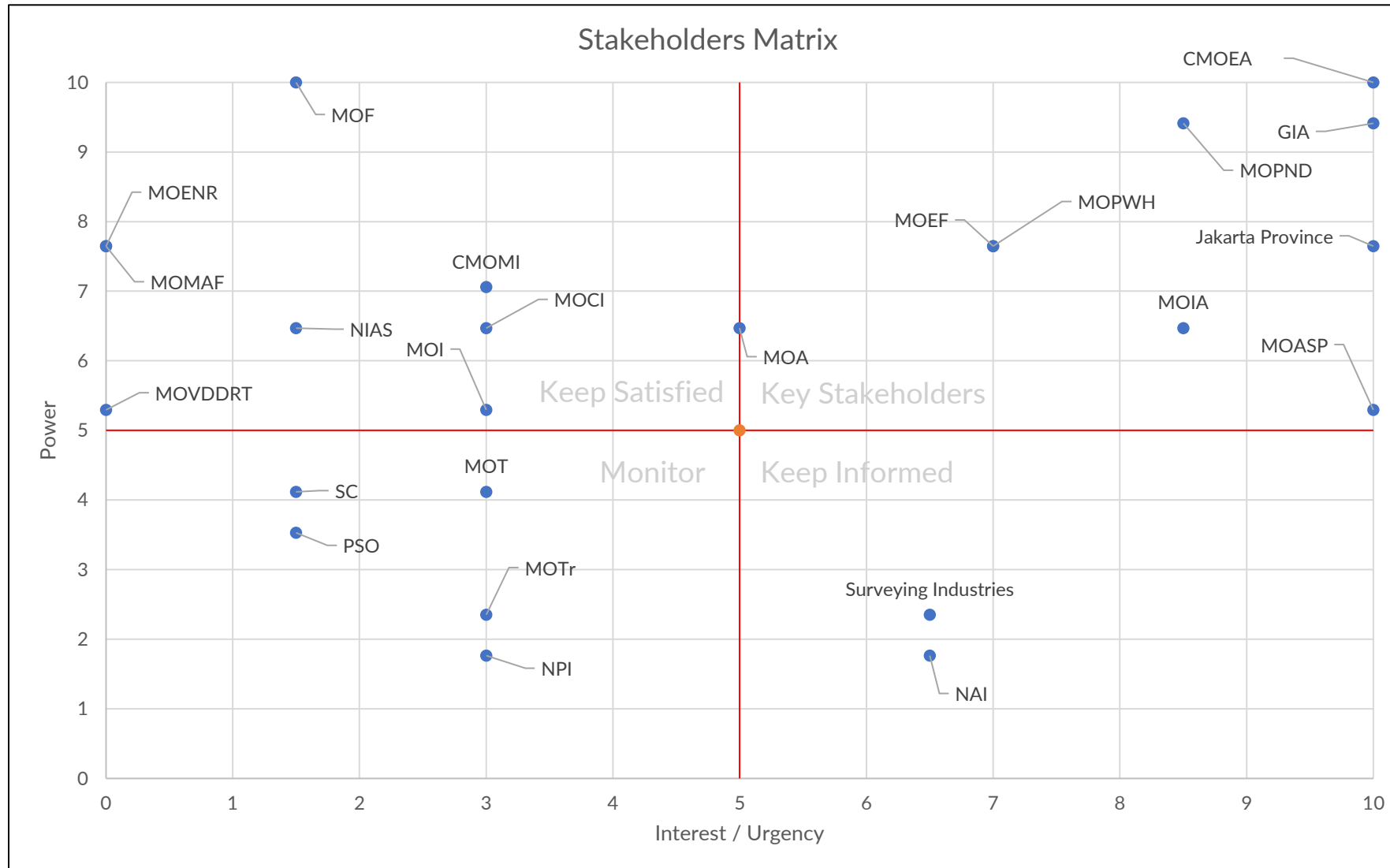


Compilation Perspective

Rank of Alternatives		
Multi-Year State Budget Funding	2	0.256
Public-Private Partnerships (PPPs)	3	0.235
Local-National Matching Ratios	1	0.276
Cost-Sharing	4	0.138
Civic Crowdfunding	5	0.096
Sensitivity Analysis		0.034

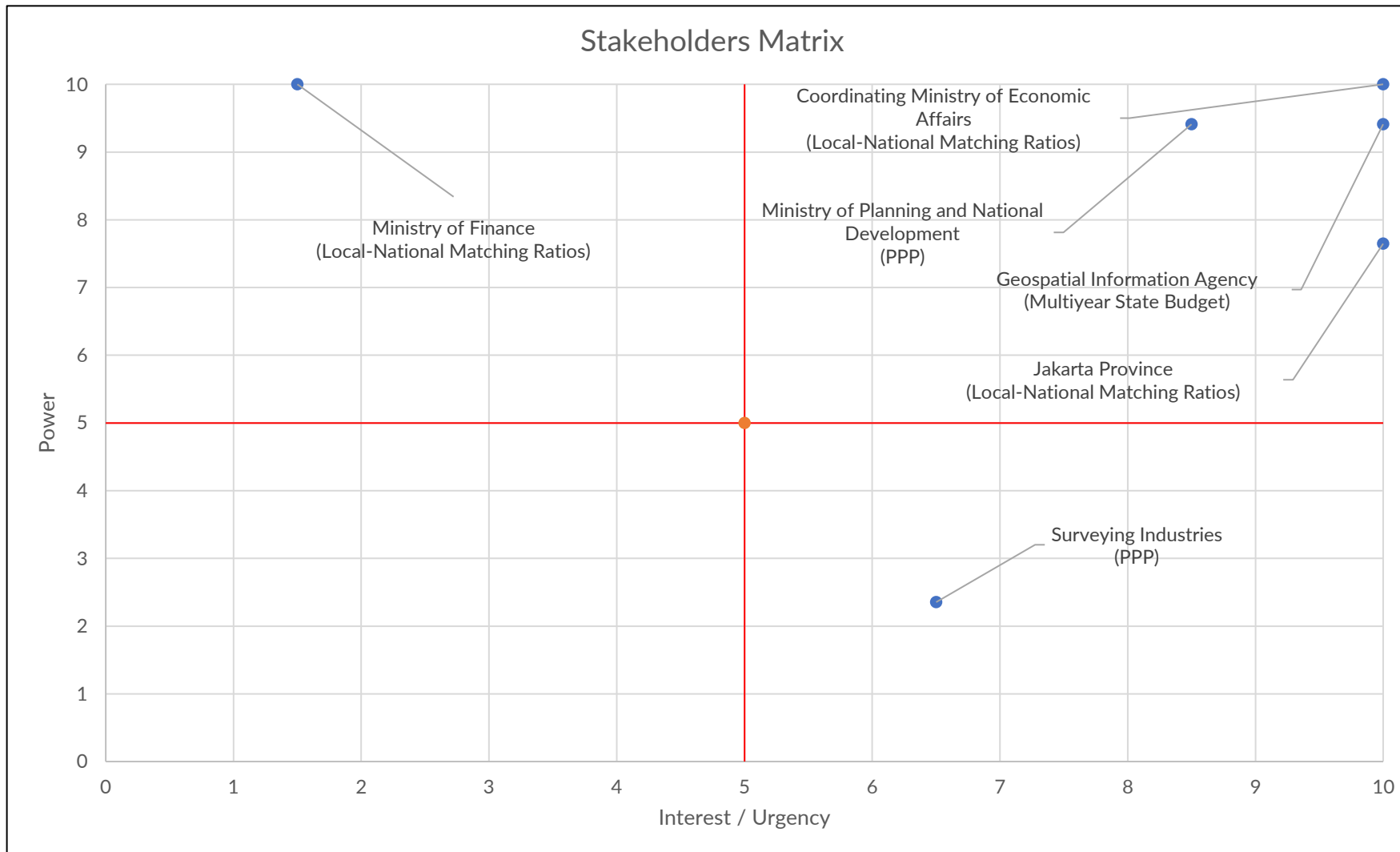
**Average of previous calculation
Three alternatives share small differences**

5. Strategic Partners



Stakeholders	Code
Coordinating Ministry of Economic Affairs	CMOEA
Ministry of Internal Affairs	MOIA
Ministry of Finance	MOVES
Ministry of Environment and Forestry	MOEF
Ministry of Agrarian and Spatial Planning	MOASP
Ministry of Energy and Natural Resources	MOENR
Ministry of Public Works and Housing	MOPWH
Ministry of Village, Development of Remote Regions and Transmigration	MOVDRRT
Ministry of Agriculture	MOA
Ministry of Industry	MOI
Ministry of Marine Affairs and Fisheries	MOMAF
Ministry of Communication and Information	MOCI
Secretary of Cabinet	SC
Presidential Staff Office	PSO
Geospatial Information Agency	GIA
National Institute of Aeronautics and Space	NIAS
Local Governments (Jakarta)	Jakarta Province
Surveying Industries	Surveying Industries
Coordinating Ministry of Maritime and Investment	CMOMI
Ministry of Planning and National Development	MOPND
Ministry of Transportation	MOT
Ministry of Trade	MOTr
National Army Institution	NAI
National Police Institution	NPI

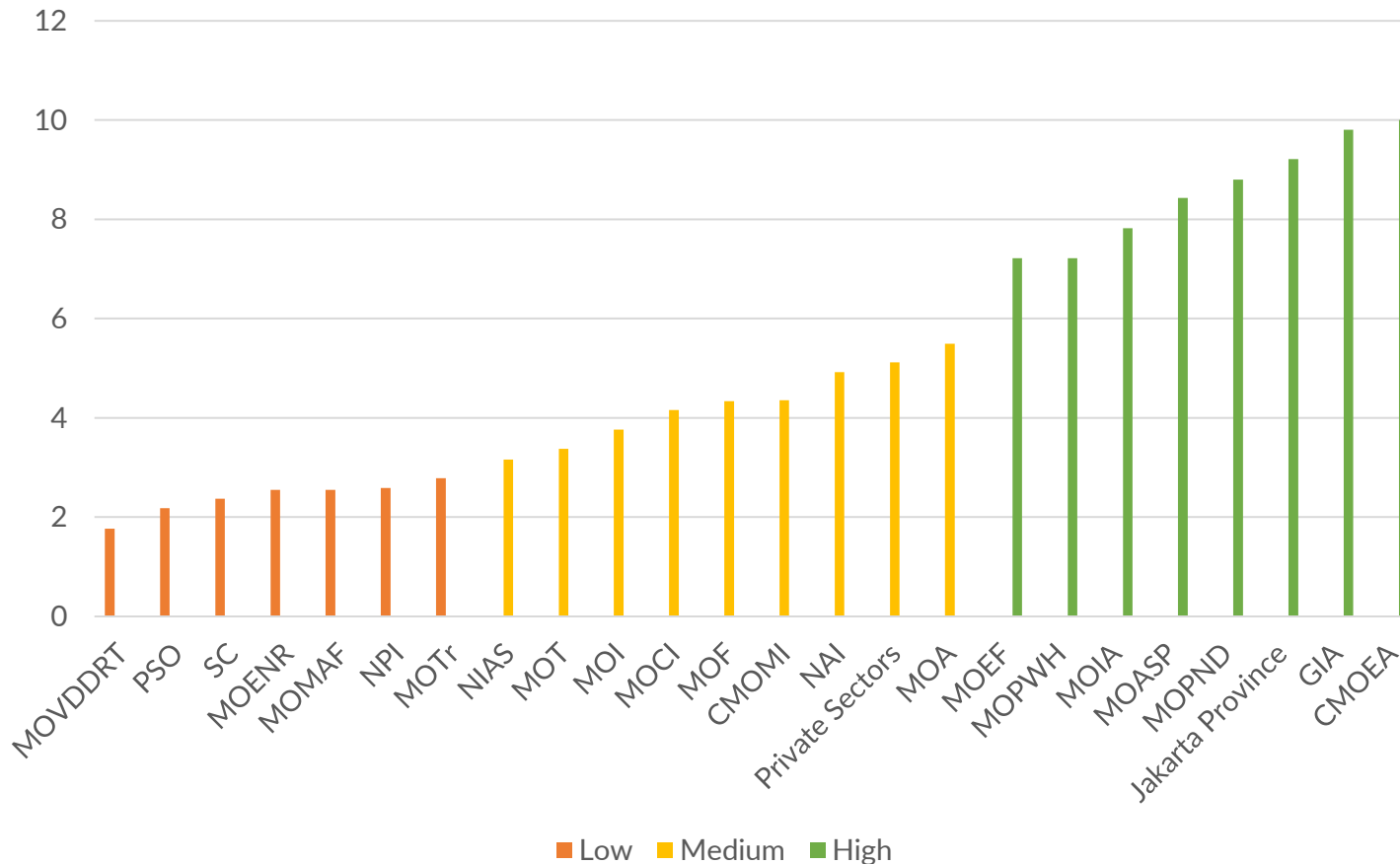
5. Strategic Partners



- **Local National Matching Ratios**
 - Ministry of Finance, Coordinating Ministry of Economic Affairs, Jakarta Province
- **PPP**
 - Ministry of National Development and Planning, Surveying Industries
- **Multiyear State Budget**
 - National Mapping Agency

5. Strategic Partners

Average value of three attributes

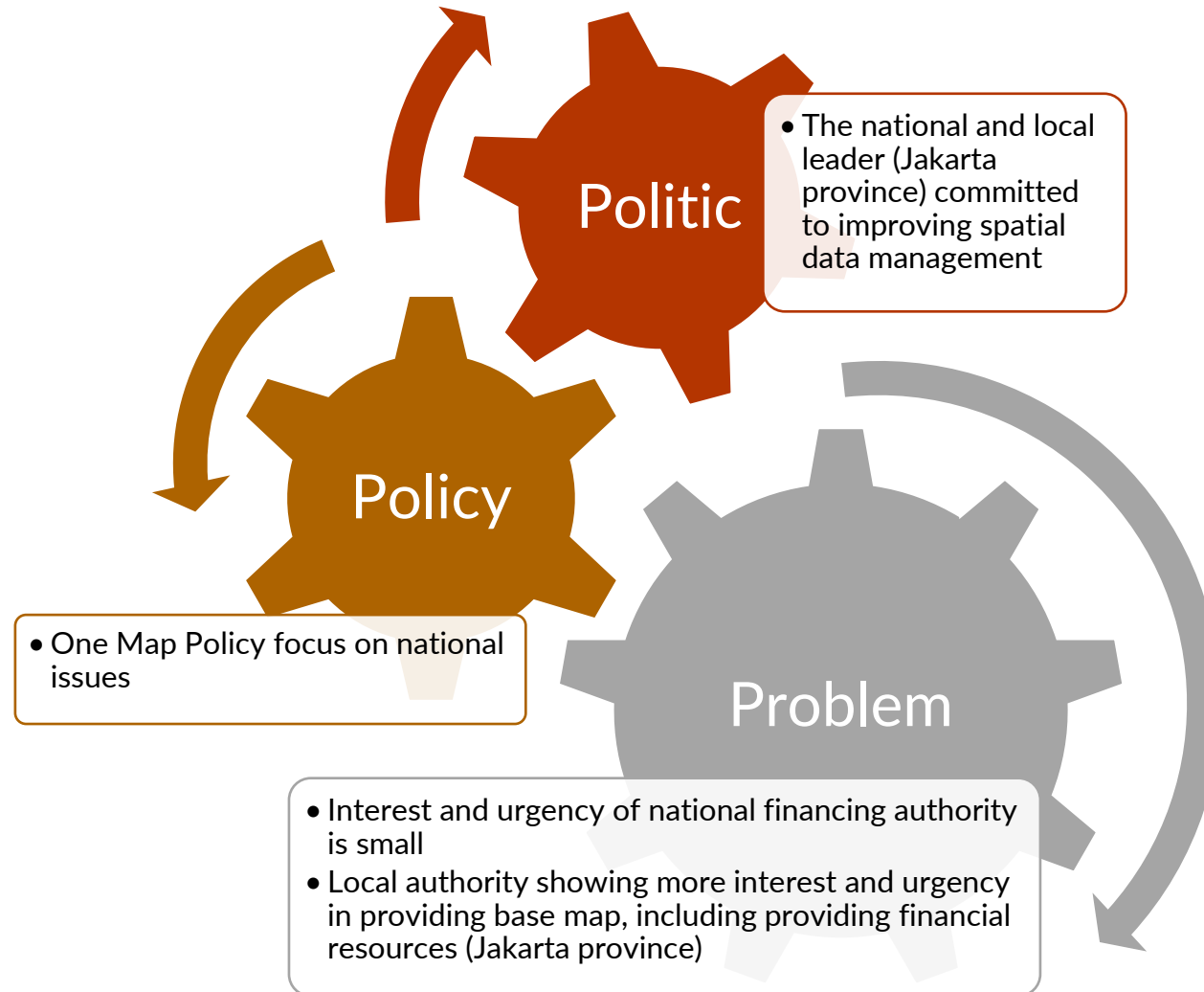


- Key stakeholders have a high average value of three attributes
- Stakeholders in this value could be viable partners in building cooperation in the production of the large-scale base map
- Stakeholders in the keep informed and keep satisfied quadrant are located in the medium level
- The MOF, which has high power, is located at the medium level. This could delay the process of implementing the funding model in the urban area
- Stakeholders in the monitor quadrant have an overall low attributes value

5. Strategic partners

Agenda setting

Local-National Matching Ratios





6. Conclusion and Recommendation

"Which funding model may allow the Indonesian government to fund the production of large-scale (1:5,000) base maps in urban areas in a financially durable manner?"

- Local-National matching ratios is a viable option to be implemented in urban areas
- In implementing the local-national matching ratios: fiscal capacity, the commitment of local leaders and awareness of using spatial as a basis for local development
- Moreover, the diverse perception among experts involved in base map production could mean that there is No One Size Fits All in the implementation of the funding model
- National and local stakeholders should acknowledge the message of gap in financial resources within the production of large-scale base map and create a proper relationships among stakeholders to achieve the goal of providing large-scale base map data to the public



6. Conclusion and Recommendation

Involve local governments within the One Map Policy agenda

Provide a strong regulation as a legal basis for implementing the funding model

Engage strategic stakeholders with high power, interest and urgency attributes in the large-scale base maps production



7. Limitation and Further Research



7. Limitation and Further Research

Lack of literature material



Focus in one certain model

7. Limitation and Further Research

Lack of literature material



Focus in one certain model

AHP method



Combine and compare other method

7. Limitation and Further Research

Lack of literature material



Focus in one certain model

AHP method



Combine and compare other method

Number of participants and use case



Increase number of participants and use case



7. Limitation and Further Research

Lack of literature material



Focus in one certain model

AHP method



Combine and compare other method

Number of participants and use case



Increase number of participants and use case

Various needs and importance of base map layers



Focus in specific layer(s)



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Thank you

Q & A
