

## Understanding Smart City Readiness in Muscat, Oman through a Two-Layer Readiness Framework

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### INTRODUCTION & AIM

#### Why this study?

**Problem**  
Technology alone cannot drive meaningful urban change.

**Gap**  
Existing assessments overlook the gap between institutional capacity and public readiness.

**Context**  
Oman Vision 2040 promotes inclusive participation, with Muscat at the centre of Oman's smart city transition.

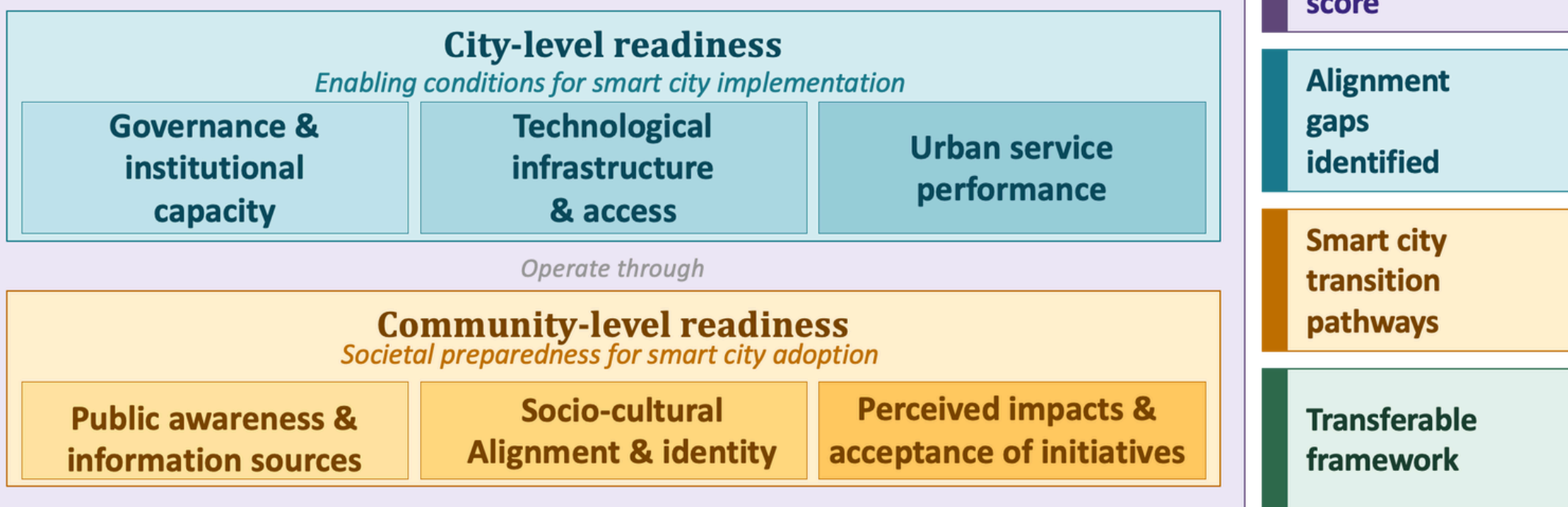
**Theory**  
Theory of Change (ToC) as the main framework, with TAM and UTAUT used as supporting interpretive lenses.

#### Inputs

- Oman Strategic plans - Oman Vision 2040
- Ministry of Housing and Urban Planning documents
- Oman National Spatial Strategy (ONSS)
- Digital Infrastructure
- Academic Literature

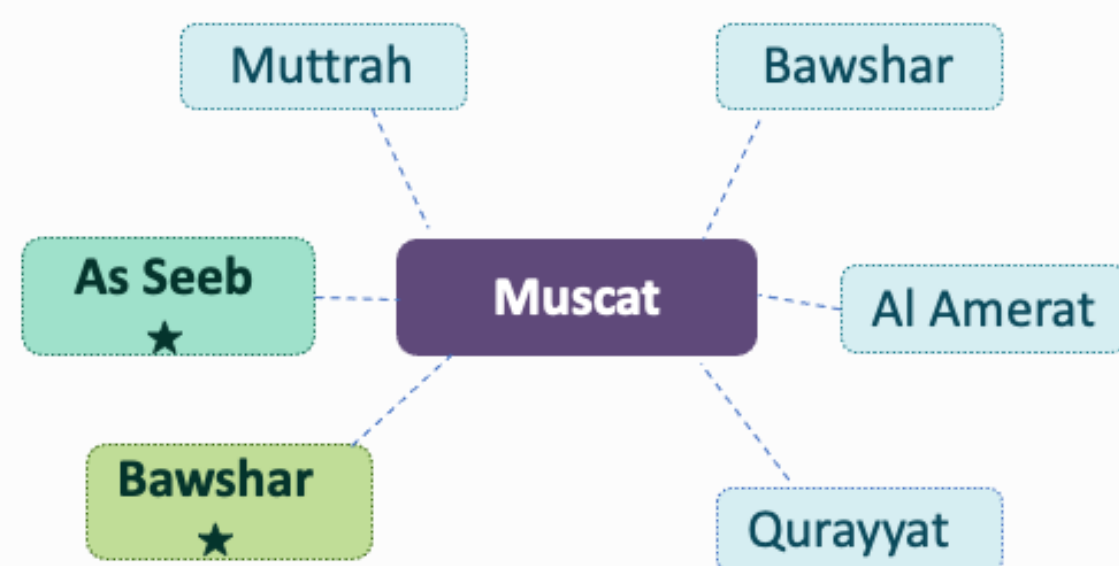
#### Two-Layer Readiness Framework

Muscat, Oman - n = 400 residents



### METHOD

#### Study area — Muscat Governorate, Oman



#### Research approach — mixed-methods design



#### Mixed-methods design

Grounded in validated readiness models

Analysis: Descriptive statistics  
Pilot study n=40 - Expert review - Dimension-based interpretation

400  
Residents surveyed

95%  
Confidence level

±5%  
Margin of error

6-pt  
Likert scale (1-6)

#### Survey dimensions mapped to readiness models

Dimension	Key variables
Access & Infrastructure	Internet reliability, device access
Technological Readiness	Smart tech familiarity by sector
Urban & Quality of Life	QoL rating, urban challenges
Governance & Gaps	Perceived readiness, barriers, priorities
Community Awareness	Familiarity, info sources, initiatives
Socio-Cultural	Cultural alignment, social impact

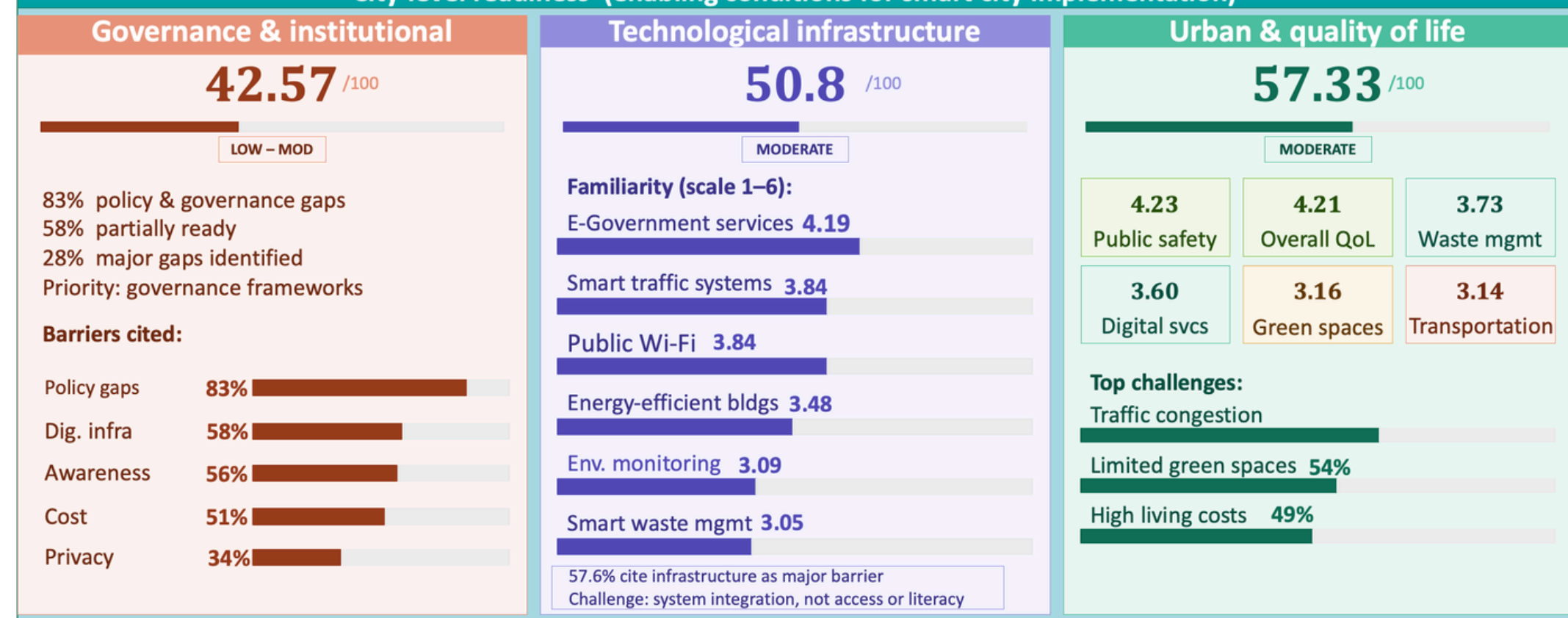
Noori et al. (2020) — city-level

Salem et al. (2024) — community-level

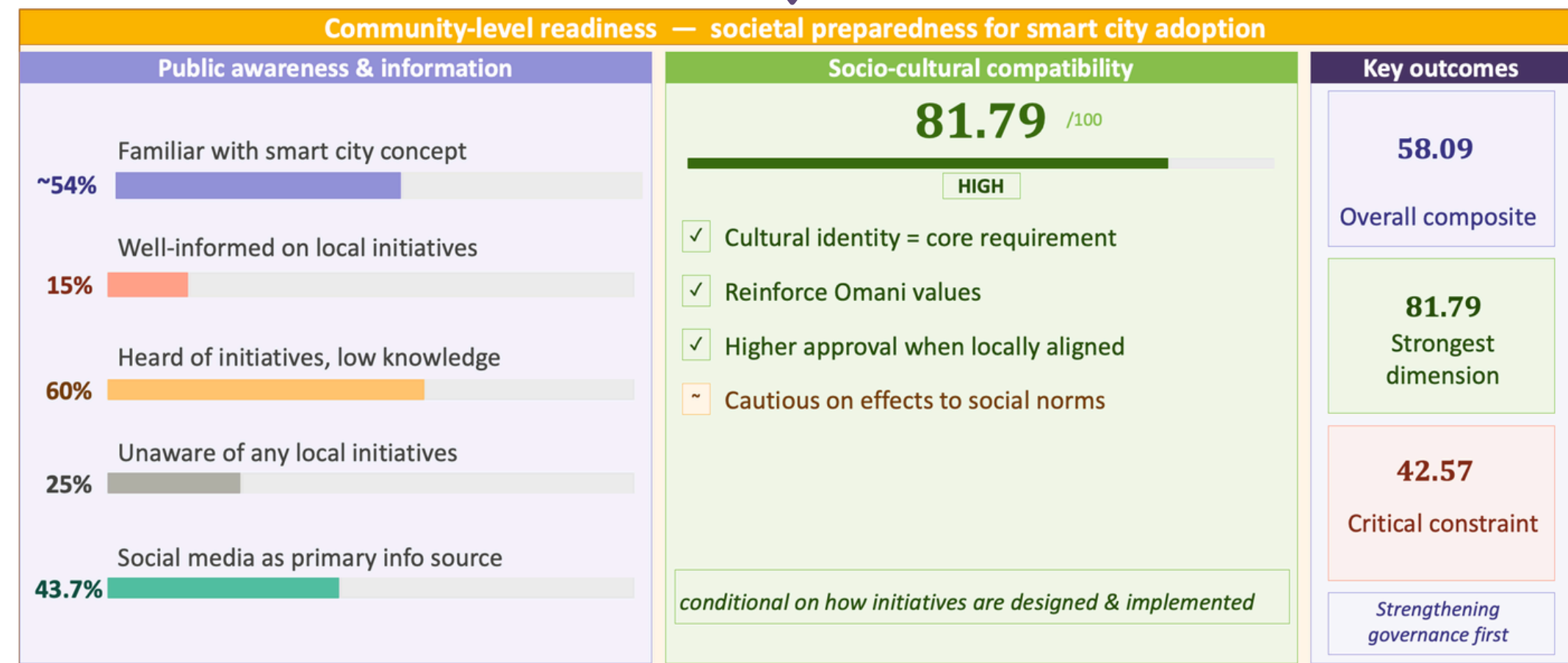
### RESULTS & DISCUSSION

Composite readiness: 58.09 / 100 - **Moderate**  
Partial preparedness for smart city transition

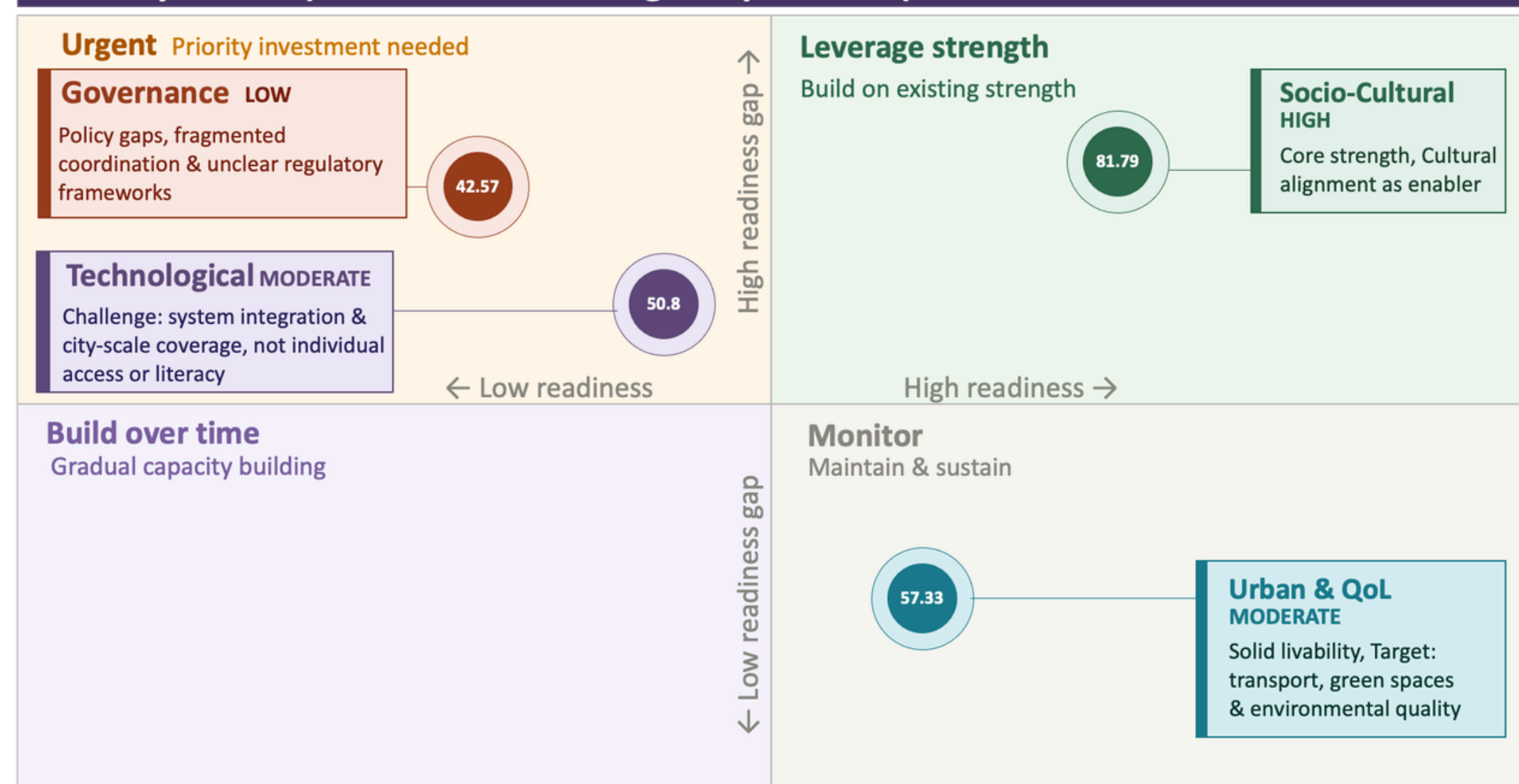
#### City-level readiness (enabling conditions for smart city implementation)



Operate through ↓



#### Priority matrix (readiness vs. strategic importance)



### CONCLUSION

**Govern Engage deliver**

Technology alone does not create smart cities  
governance, people, and urban impact → evolve together

### FUTURE WORK / REFERENCES

Future work: Extend to inferential analysis and longitudinal tracking under Oman Vision 2040

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