What factors influence perceived AI adoption by public managers?

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Background

- EU wants to become "global leader" in trustworthy AI

- After pilot phase there now more extensive implementation

- Challenges and barriers

Defining AI

"the ability of a machine to display human-like capabilities such as reasoning, learning, planning and creativity. AI applications can be found in, for instance: virtual assistants, image analysis software, search engines, speech and facial recognition systems."
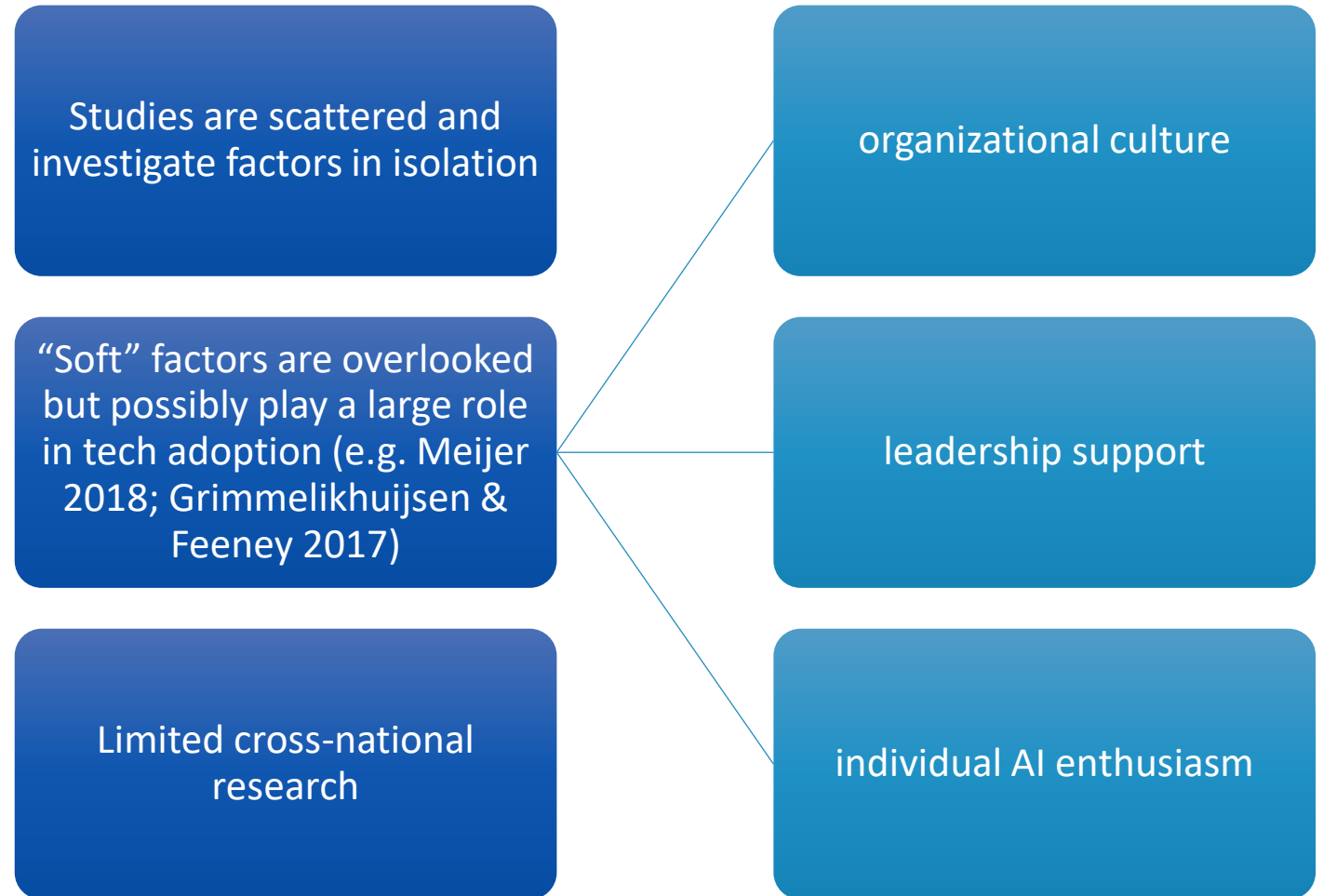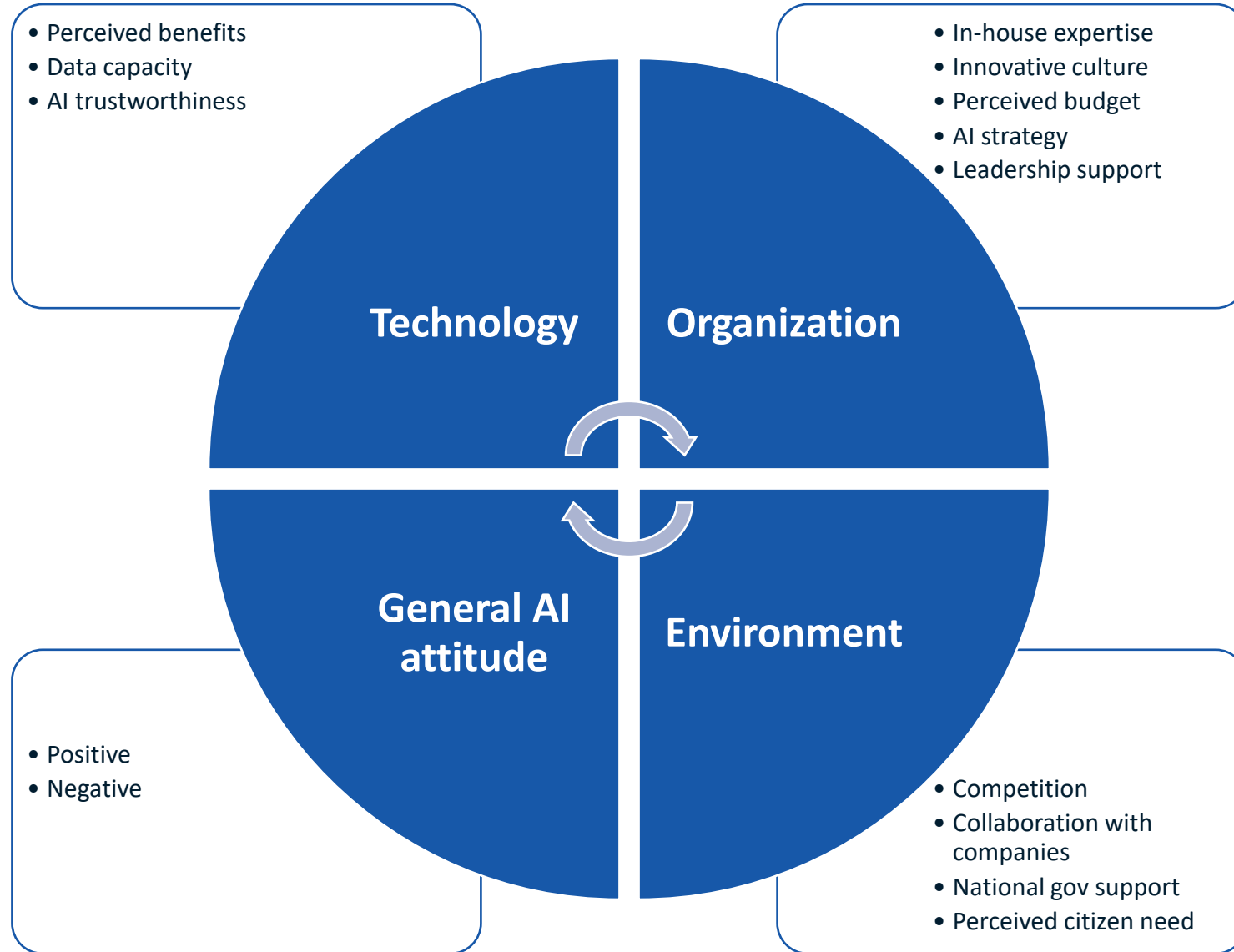
Goals

- Identify main challenges, drivers

- Add policy and scientific evidence

- Develop recommendations

What are gaps in the current evidence?

Studies are scattered and investigate factors in isolation

"Soft" factors are overlooked but possibly play a large role in tech adoption (e.g. Meijer 2018; Grimmelikhuijsen & Feeney 2017)

Limited cross-national research

organizational culture

leadership support

individual AI enthusiasm

- Perceived benefits
- Data capacity
- AI trustworthiness

- In-house expertise
- Innovative culture
- Perceived budget
- AI strategy
- Leadership support

Technology

Organization

General AI attitude

Environment

- Positive
- Negative

- Competition
- Collaboration with companies
- National gov support
- Perceived citizen need

Study design

Seven countries: France, Germany, Spain, Netherlands, Poland, Austria, Sweden

Focus on perceptions of public managers (n=576)

Questions about a comprehensive set of factors from the TOE framework

Data collection through Dynata

Measuring AI adoption

Where the questions say "organisation", you can also think about your team or department when answering the questions if you feel more confident doing so.
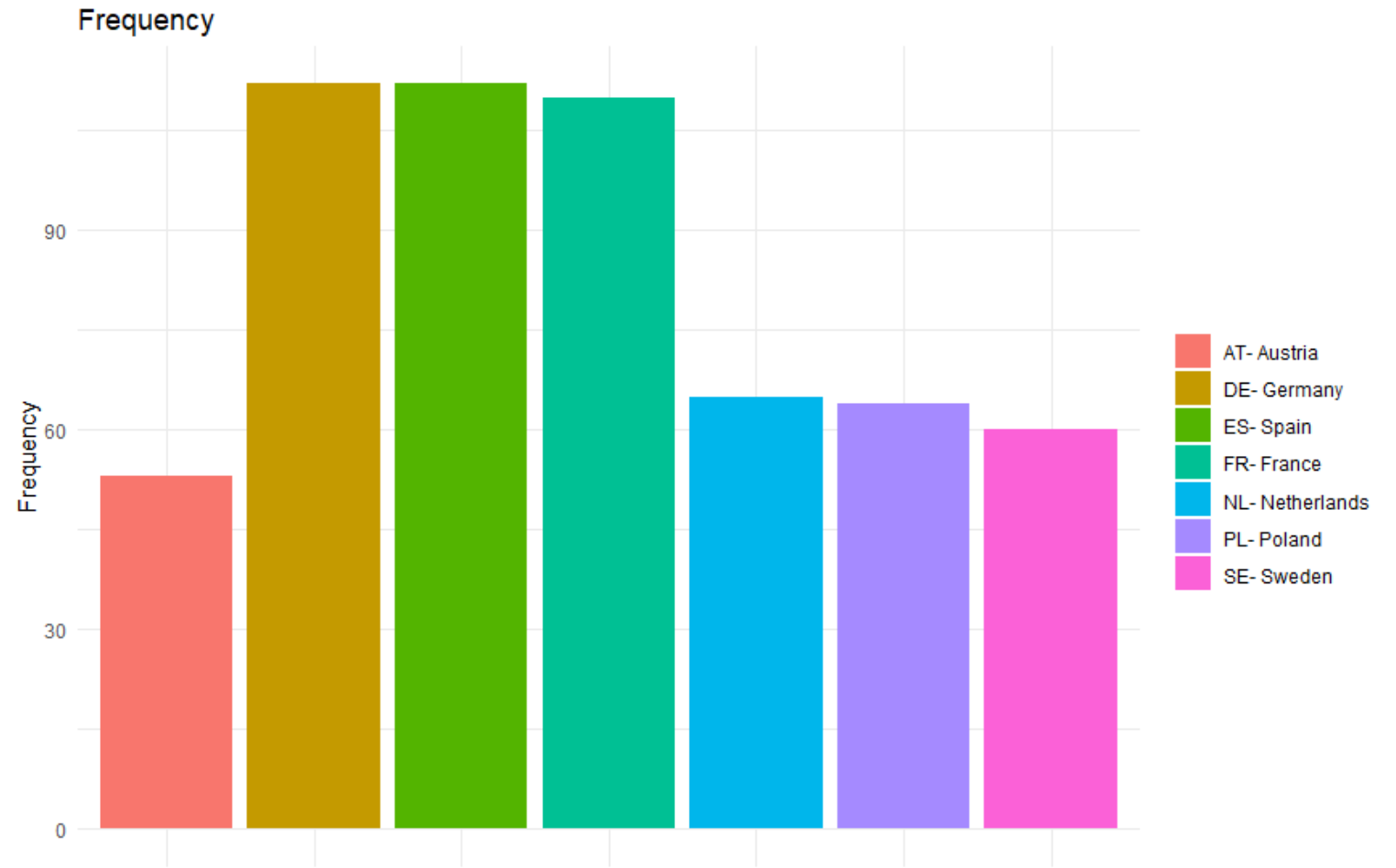
We have adopted AI in… / We are planning to use AI in… (scale: 1-7)

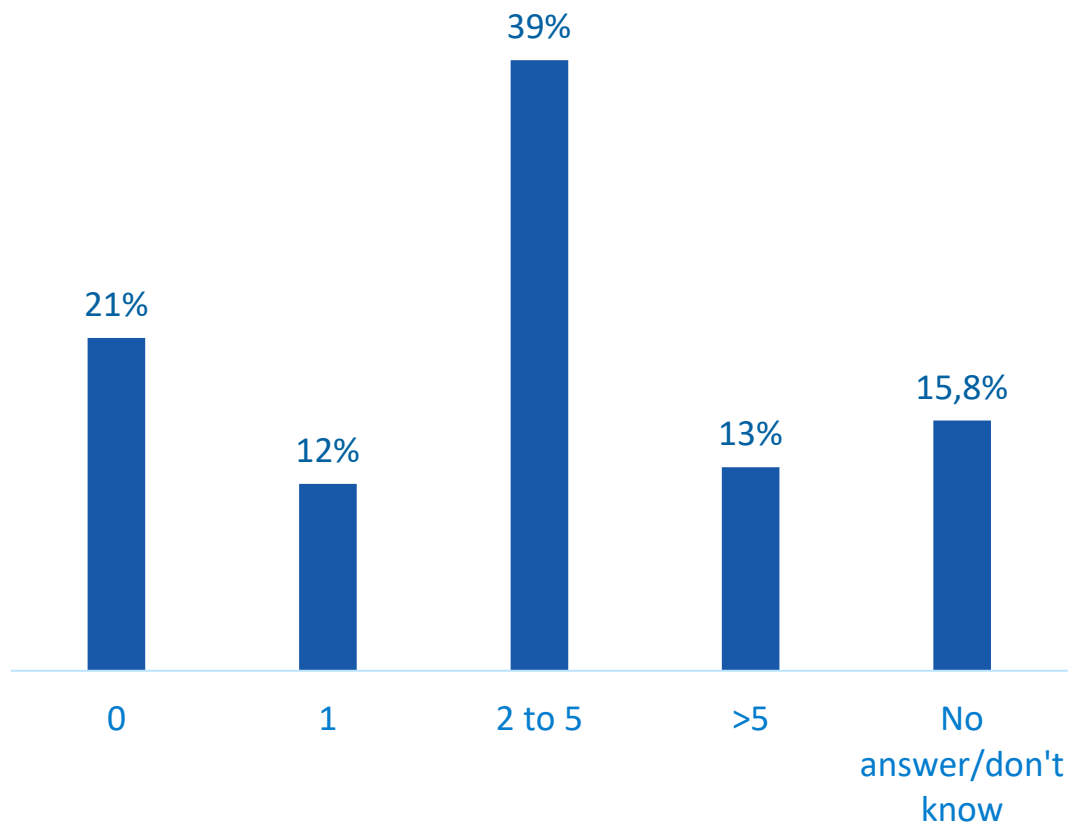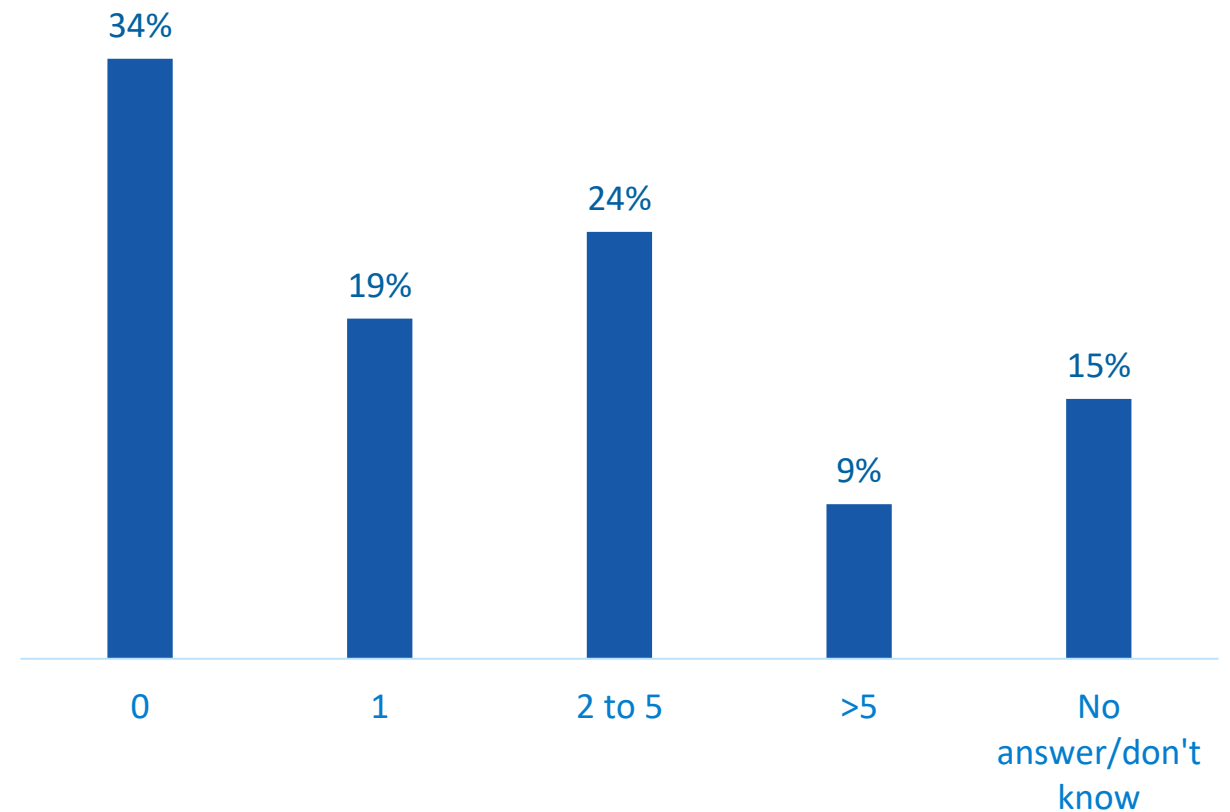| …service delivery	…internal operations	… policy decision-making

Sample (n=576)

Planned and implemented AI projects

Most public managers have implemented AI projects, or are planning at least one
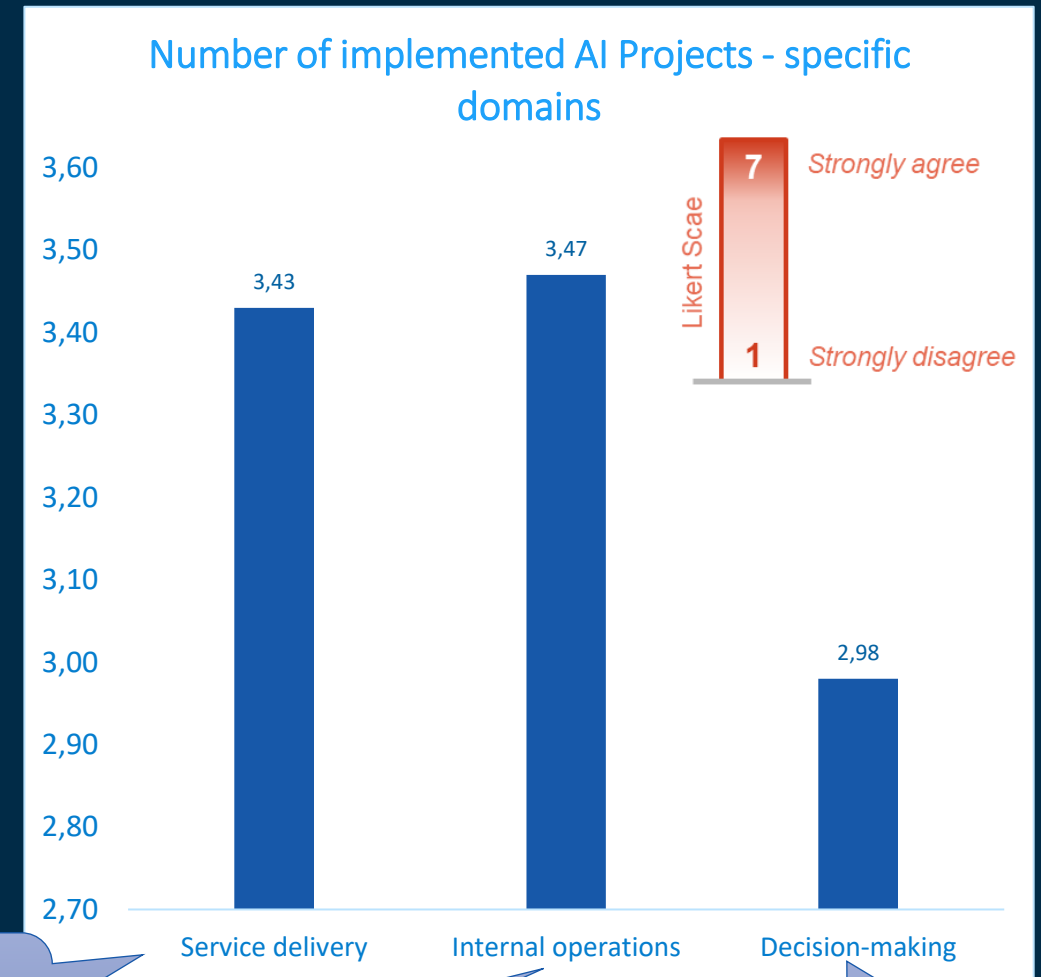
Type of implemented AI projects

Less projects in policy decision-making than in other areas

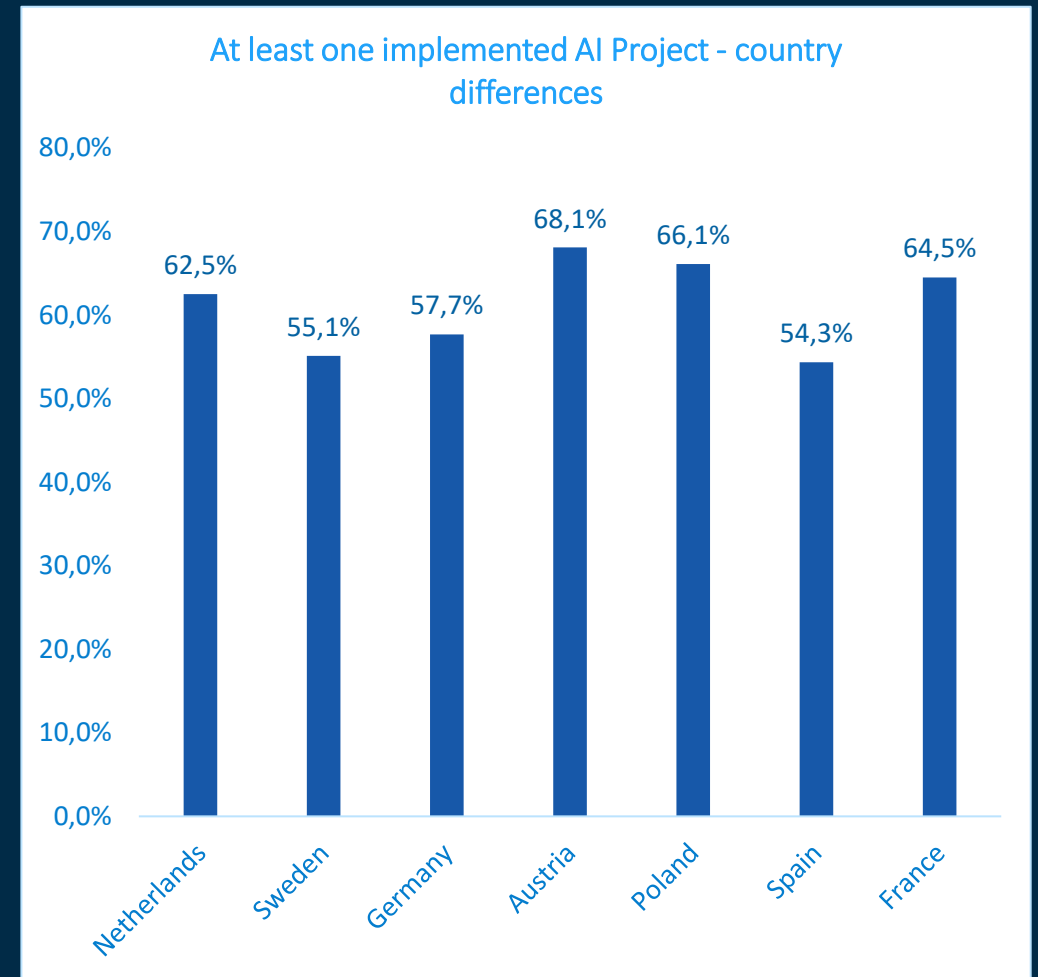Number of implemented AI Projects - specific domains
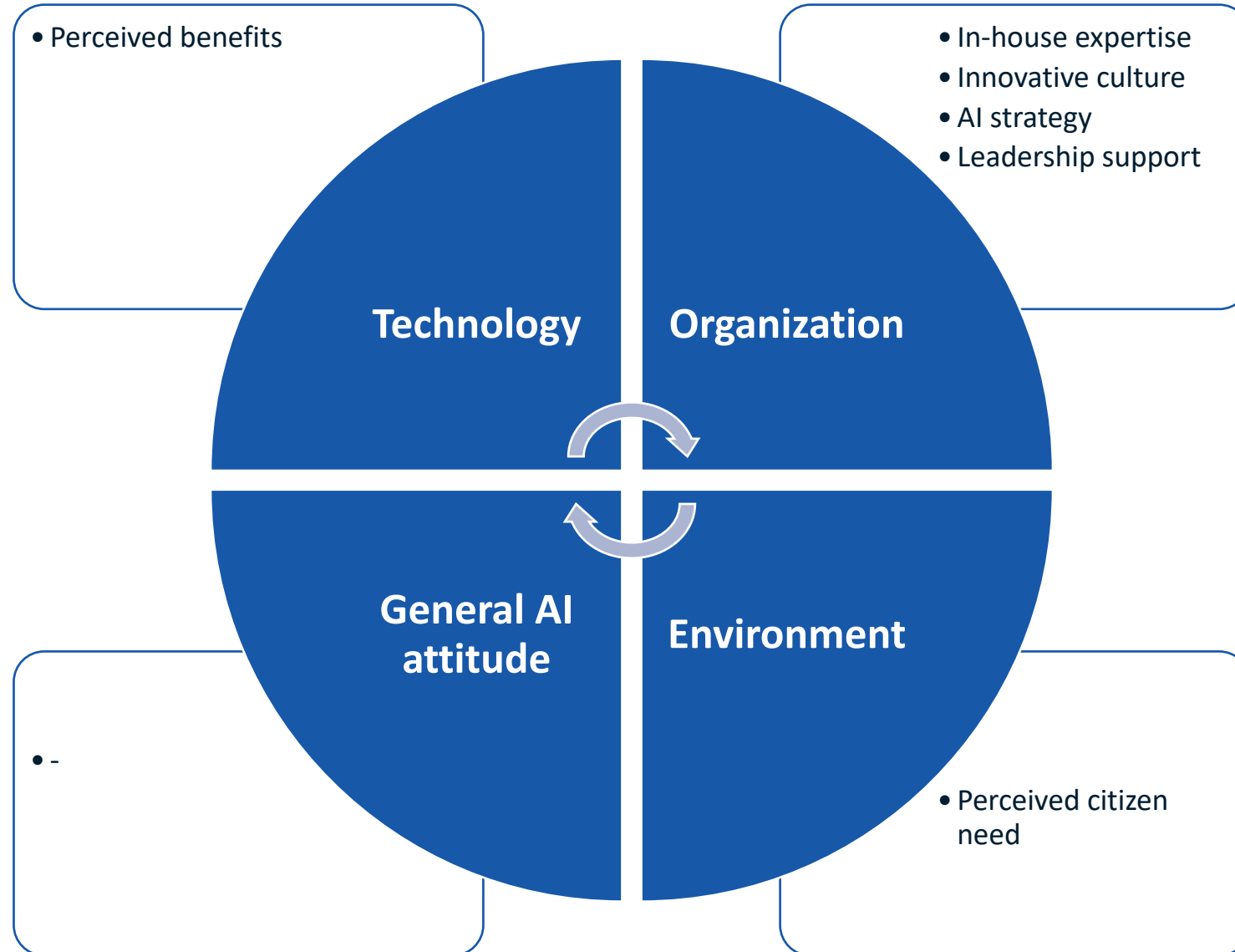
e.g. chatbots

e.g. fraud detection, image recognition

e.g. dashboard, data-driven

Country differences

There is a limited difference between countries in implemented projects
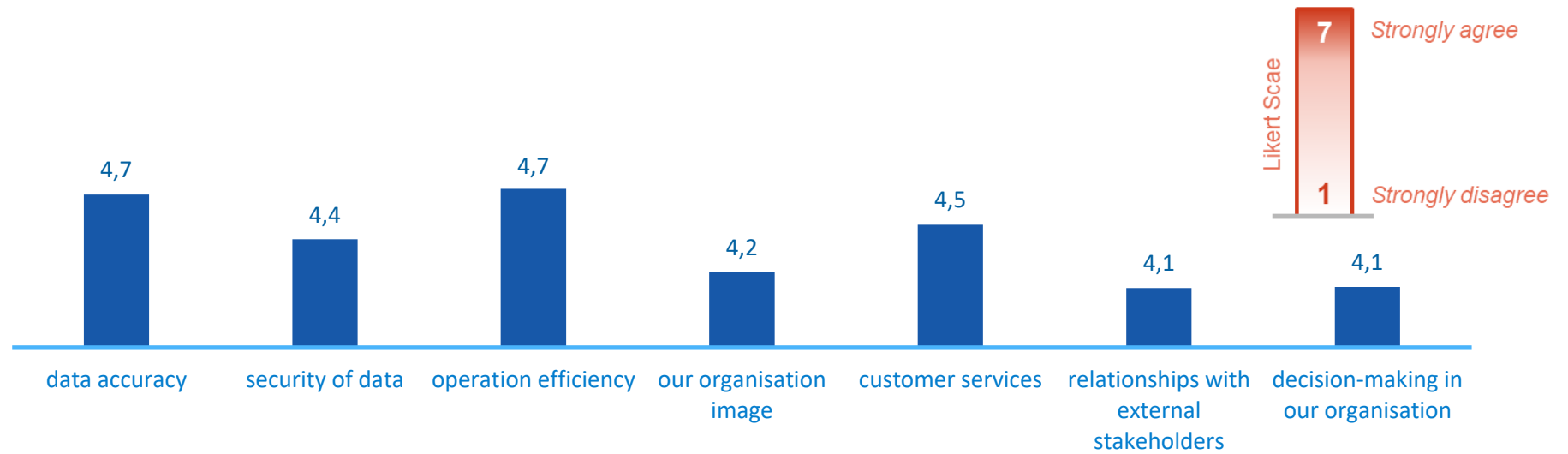

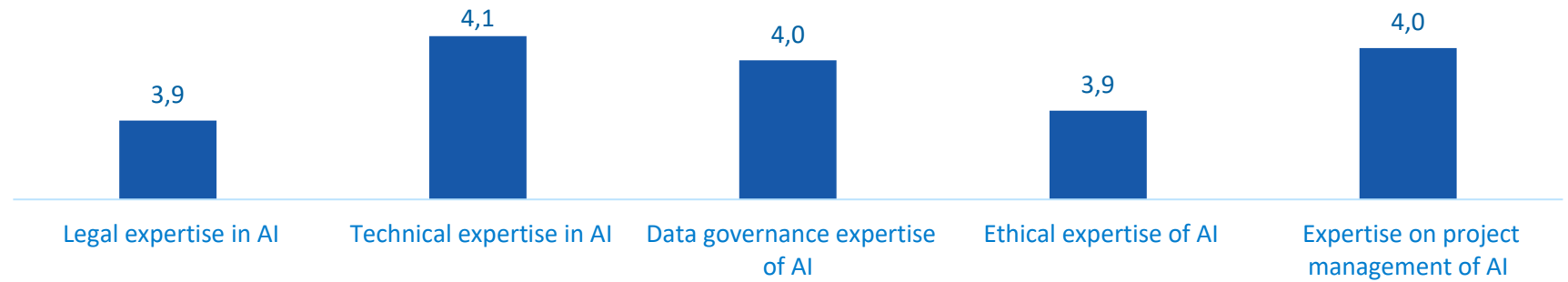At least one implemented AI Project - country differences

Netherlands	Sweden	Germany	Austria	Poland	Spain	France
62,5%	55,1%	57,7%	68,1%	66,1%	54,3%	64,5%

Factors contributing to adoption

- Perceived benefits

Technology

Organization

- In-house expertise
- Innovative culture
- AI strategy
- Leadership support

General AI attitude

Environment

- -

- Perceived citizen need

Technology
AI benefits

Likert Scale	
7	Strongly agree
1	Strongly disagree

data accuracy — 4,7
security of data — 4,4
operation efficiency — 4,7
our organisation image — 4,2
customer services — 4,5
relationships with external stakeholders — 4,1
decision-making in our organisation — 4,1

Organisation
In-house expertise

Legal expertise in AI — 3,9
Technical expertise in AI — 4,1
Data governance expertise of AI — 4,0
Ethical expertise of AI — 3,9
Expertise on project management of AI — 4,0

Environment
Perceived citizen need

Our citizens want us to provide our services with the use of AI — 3,9
Our citizens ask for AI services on a regular basis — 3,5
Our citizens prefer organisations that provide AI-based services — 3,6
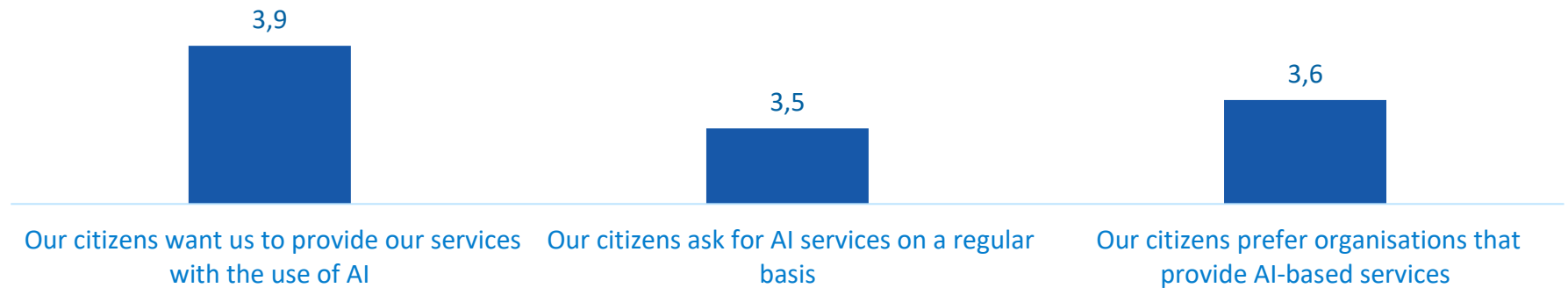
Conclusions

1. AI adoption is no longer a promise, it is a reality, in particular in service delivery and internal operations.

2. Soft factors and in-house expertise are important in AI adoption

3. Citizen needs are important in AI adoption

Policy recommendations

1

Attention for AI and digitalisation in leadership programs, organisational development and strategy building.

2

Broaden in-house expertise on AI, this should not just be technical expertise but also on ethics, governance, management etc.

3

Monitor citizen needs for digital improvements in government service delivery.

Thank you

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