

The State of AI and Data Governance in the Arab Region

Challenges and Future Policy Directions

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Technology and innovation for Arab public institutions

ESCWA EGM

28-29 Feb 2024



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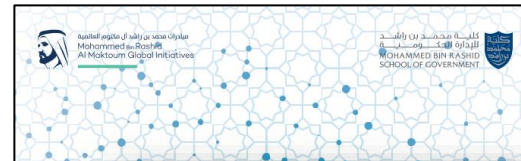
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"Governance in the Age of Artificial Intelligence"

Dubai, 18-20 June, 2019

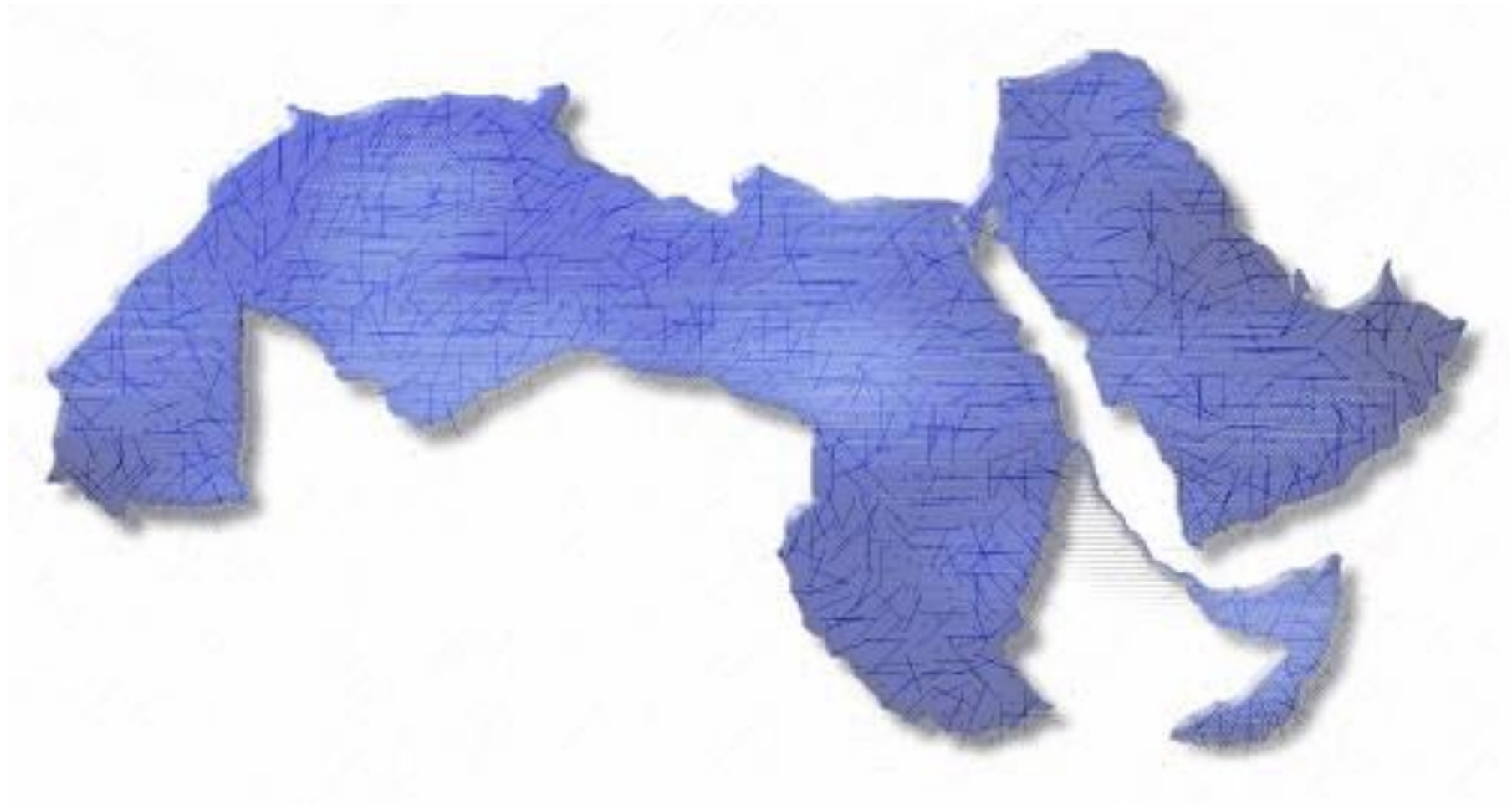
Workshop: Governance of Artificial Intelligence

17TH - 19TH September 2018

Open for Registration

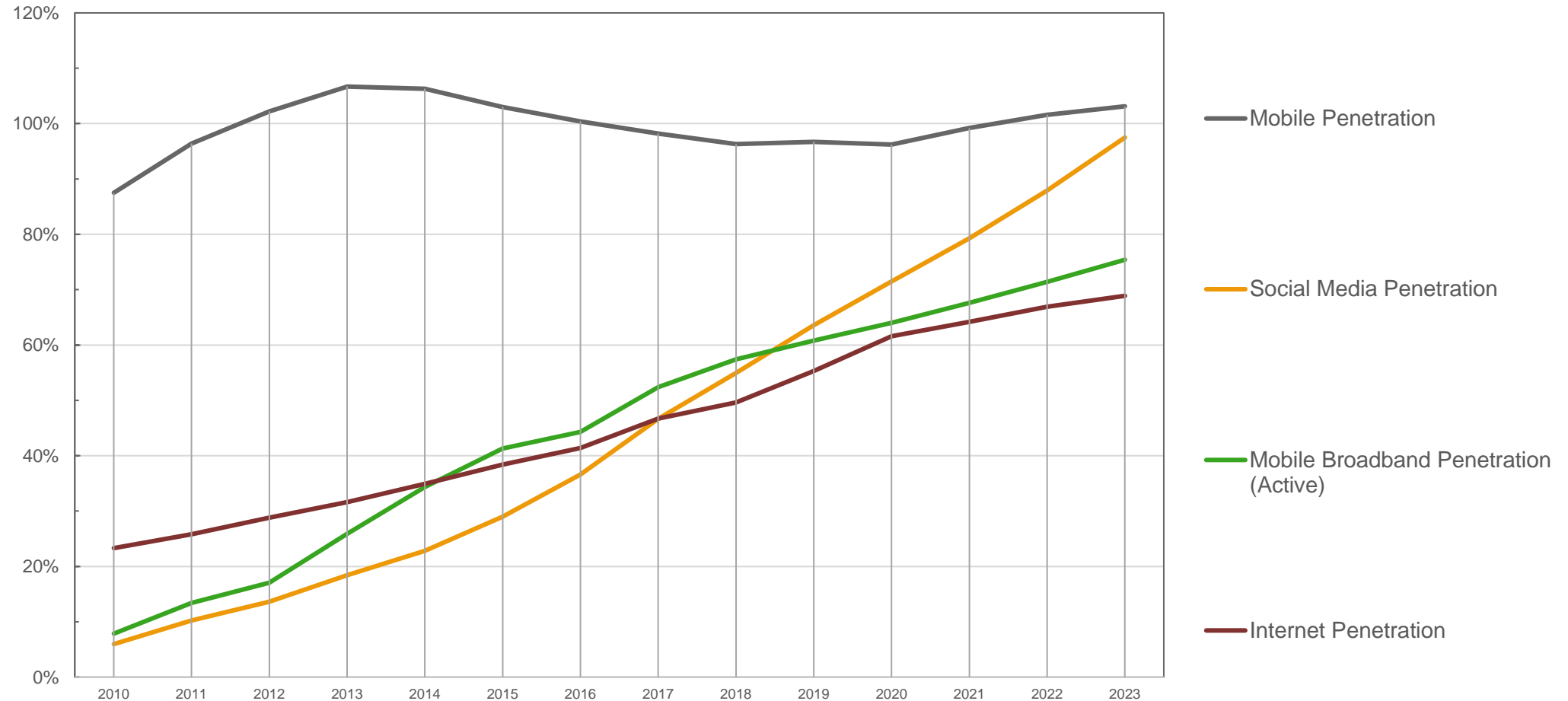
The Decade of Digitized Governments & Datafied Societies

A Regional View



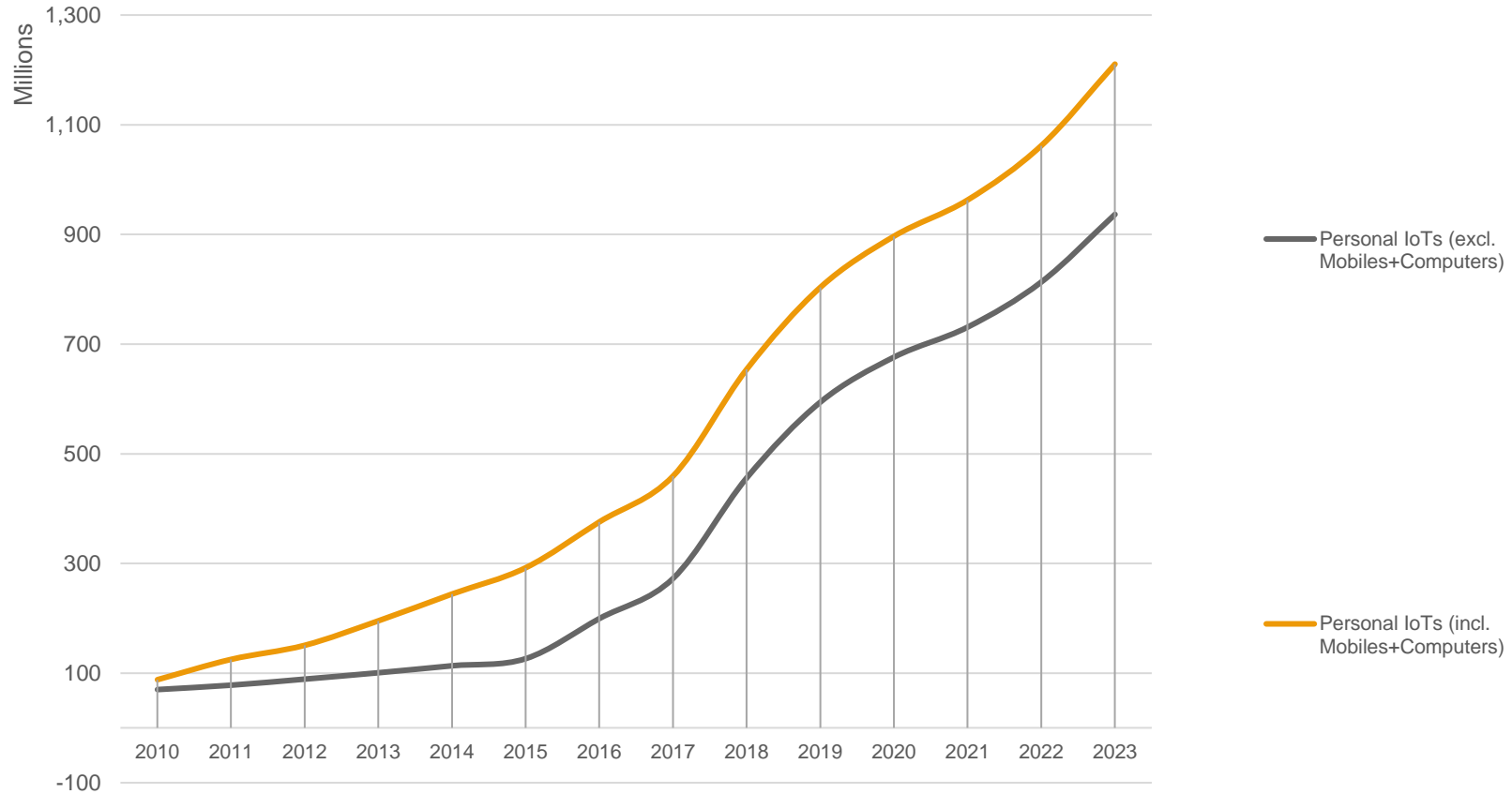
Societal Datafication 2010-2023

ICT Penetration in the Arab World 2010-2023



Societal IoT Growth in the Arab Region

Personal Internet of Things (IoT) Growth in the Arab World 2010-2023

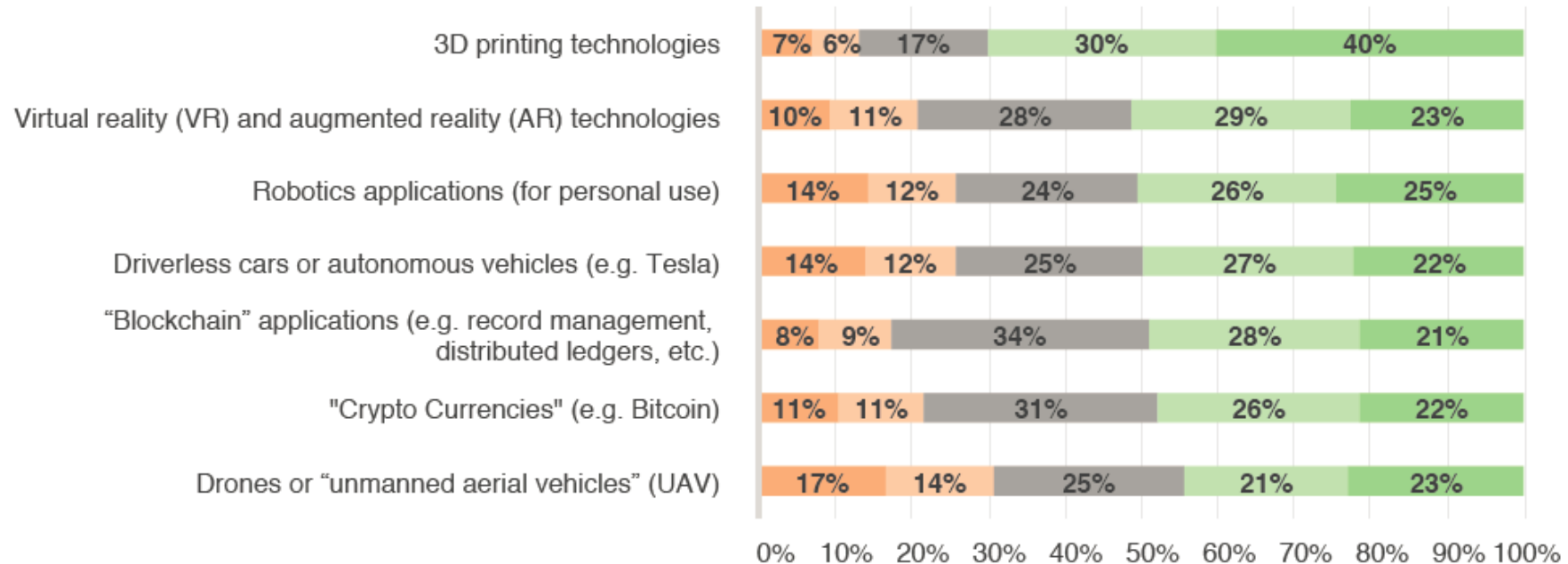


By 2017, the number of personal internet-connected devices has surpassed the number of humans in the Arab region

Fast Growing Societal Readiness for Emerging Tech.

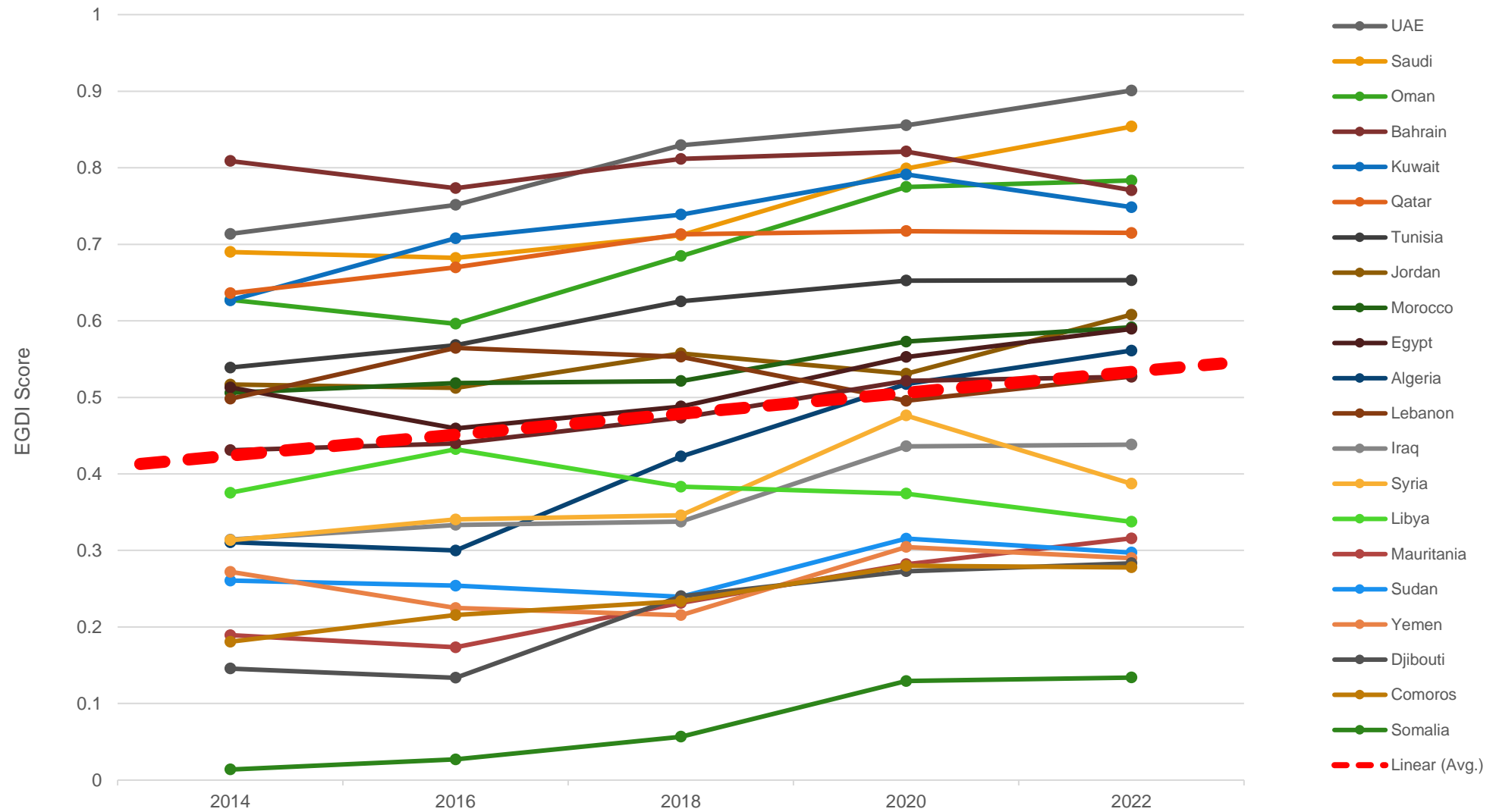
Readiness for Emerging Technologies

(Would you use any of the following digital technologies, if they become accessible and available to you today at reasonable cost?)



○ No Definitely ○ Maybe Not ○ Not Sure ○ Maybe Yes ○ Yes Definitely

Digital Government in the Arab Region (2014-2022)



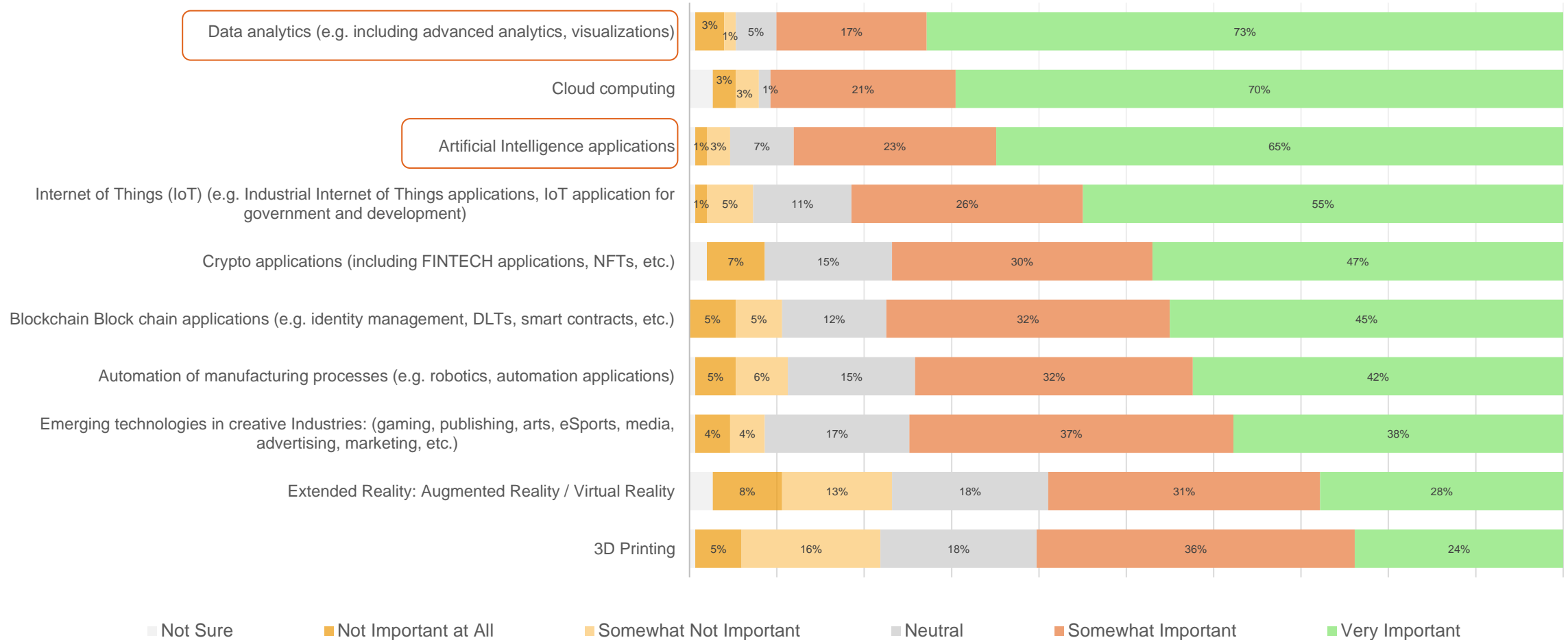
The Rise of AI in the Arab Region

Current State Assessment



Policy Makers' AI Awareness in the Arab Region (Regional Avg.)

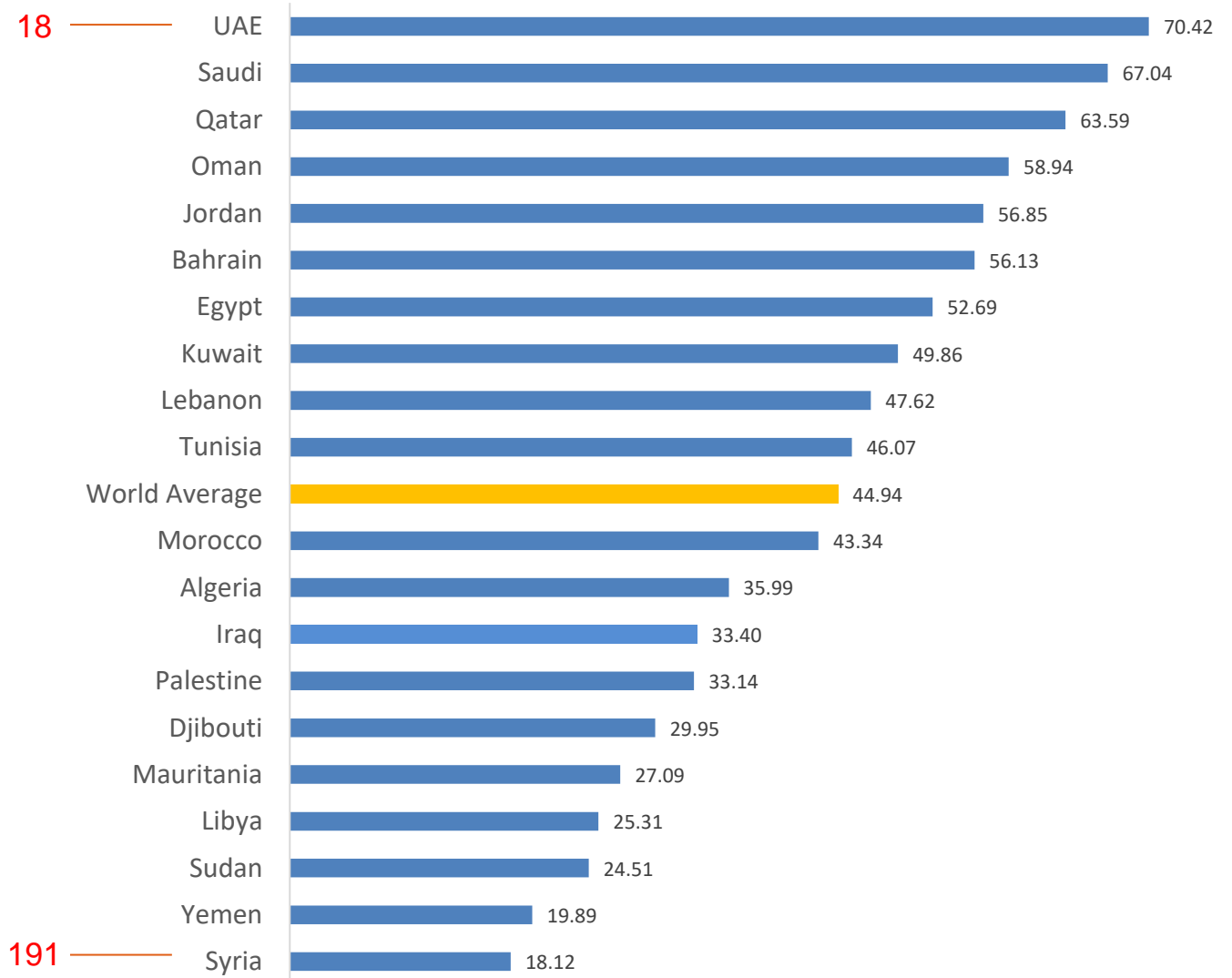
HOW IMPORTANT IS EACH OF THE FOLLOWING TECHNOLOGIES FOR DEVELOPMENT IN THE COUNTRY IN THE COMING 5 YEARS



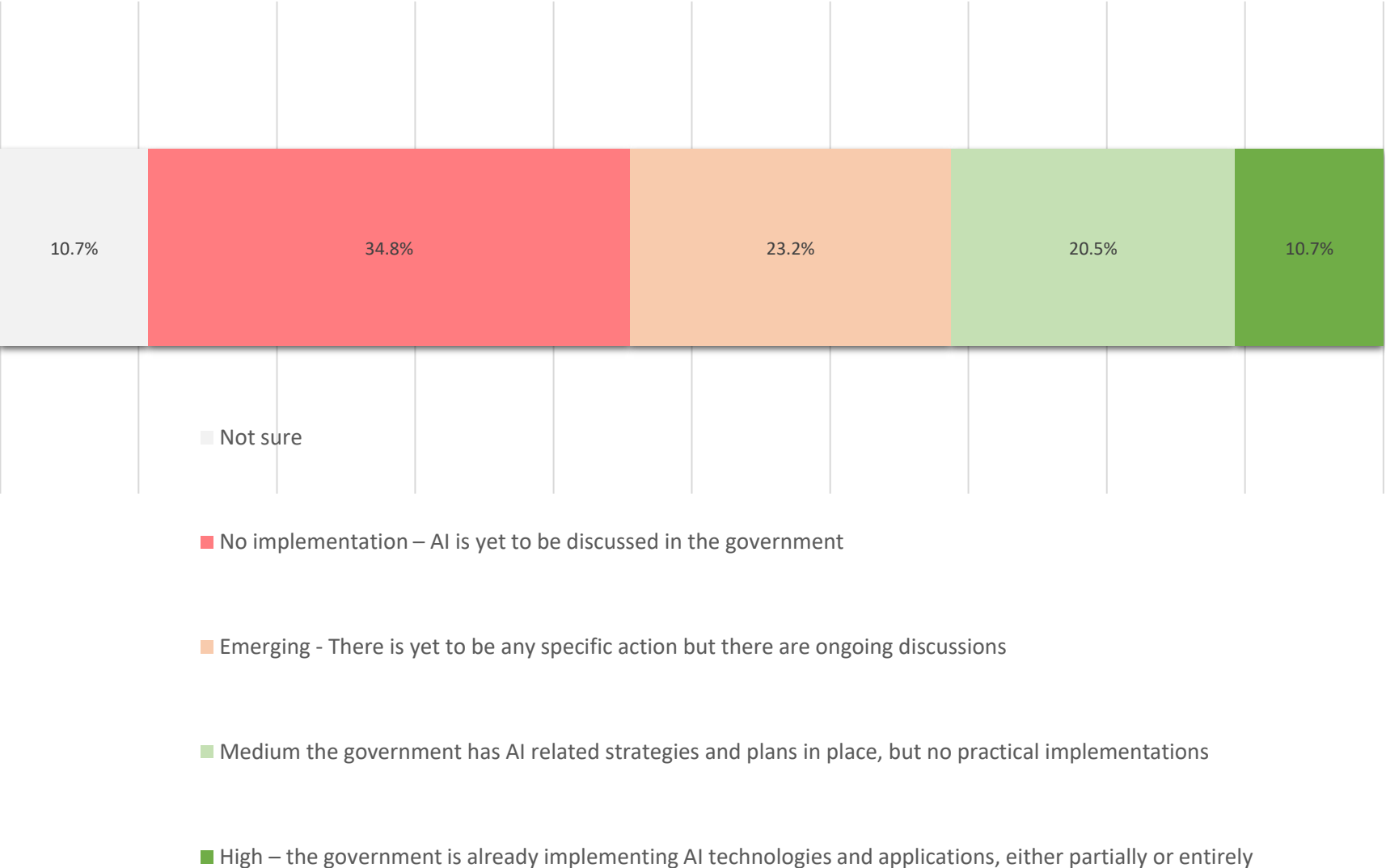
*State of Digital Development (Fadi Salem 2022)

AI Government Readiness in the Arab Region

- Vision
- Governance and Ethics
- Digital Capacity
- Adaptability
- Digital Maturity
- Innovation Capacity
- Human Capital
- Infrastructure
- Data Availability
- Data Representativeness



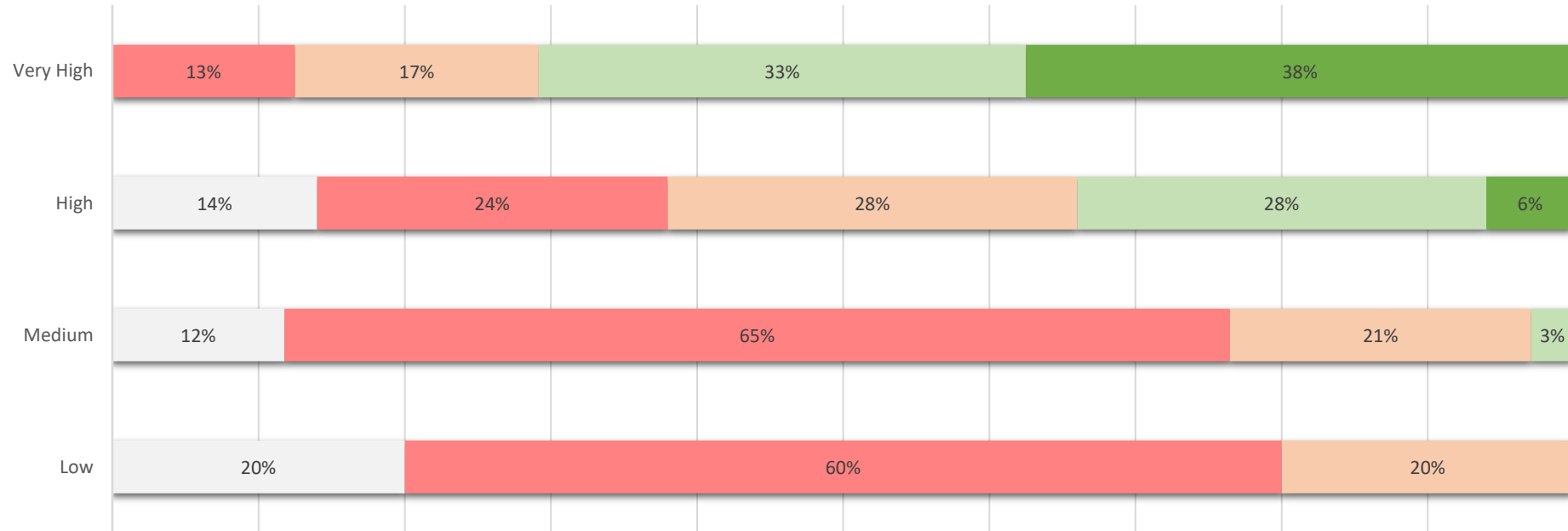
Actual AI Implementation in Government (Regional Avg.)



*State of Digital Development (Fadi Salem 2022)

Actual AI Implementations by State of Digital Maturity (Arab Region)

Digital Maturity



■ Not sure

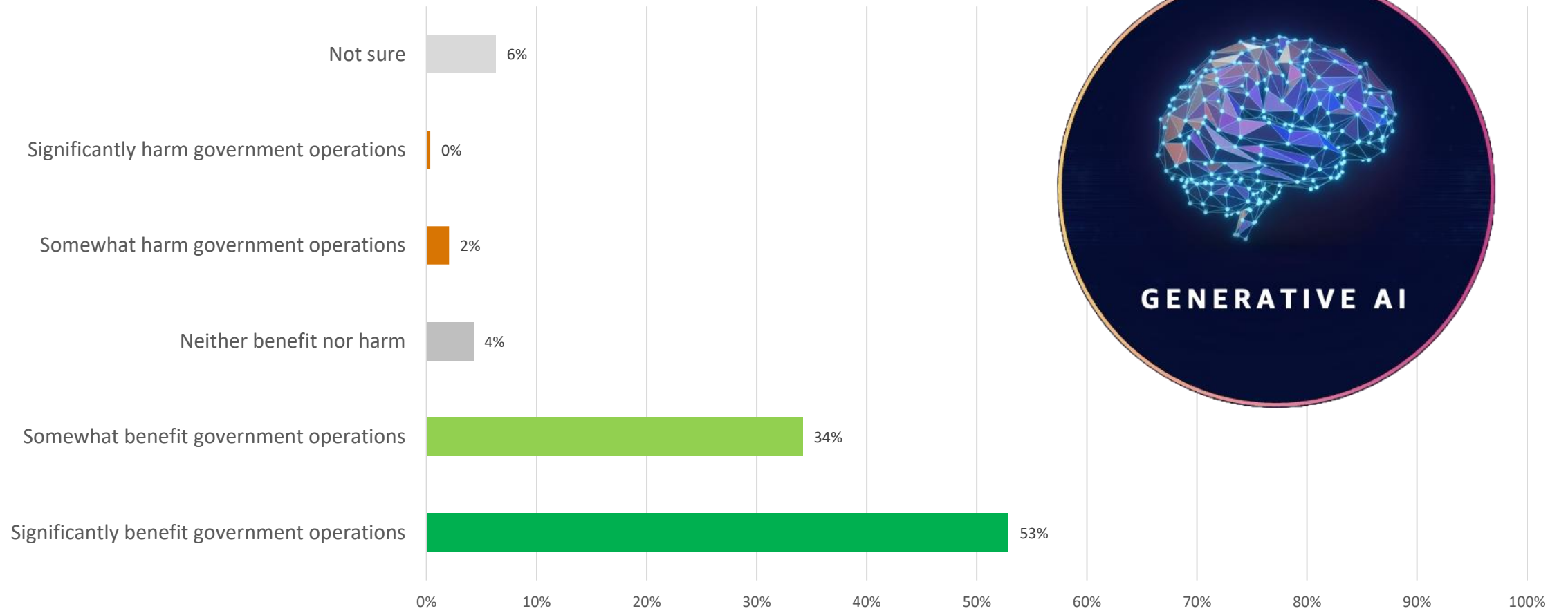
■ No implementation – AI is yet to be discussed in the government

■ Emerging - There is yet to be any specific action but there are ongoing discussions

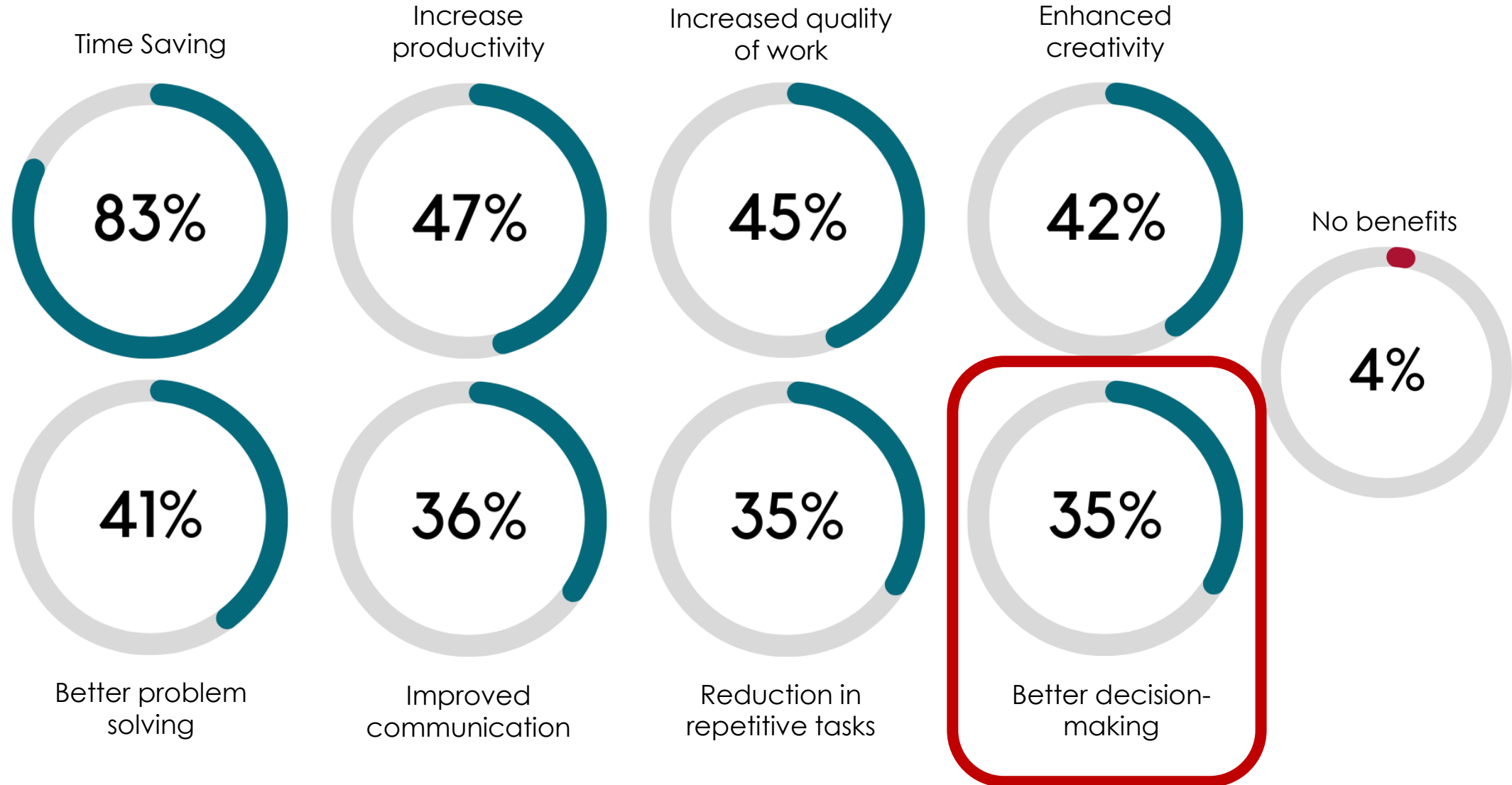
■ Medium the government has AI related strategies and plans in place, but no practical implementations

■ High – the government is already implementing AI technologies and applications, either partially or entirely

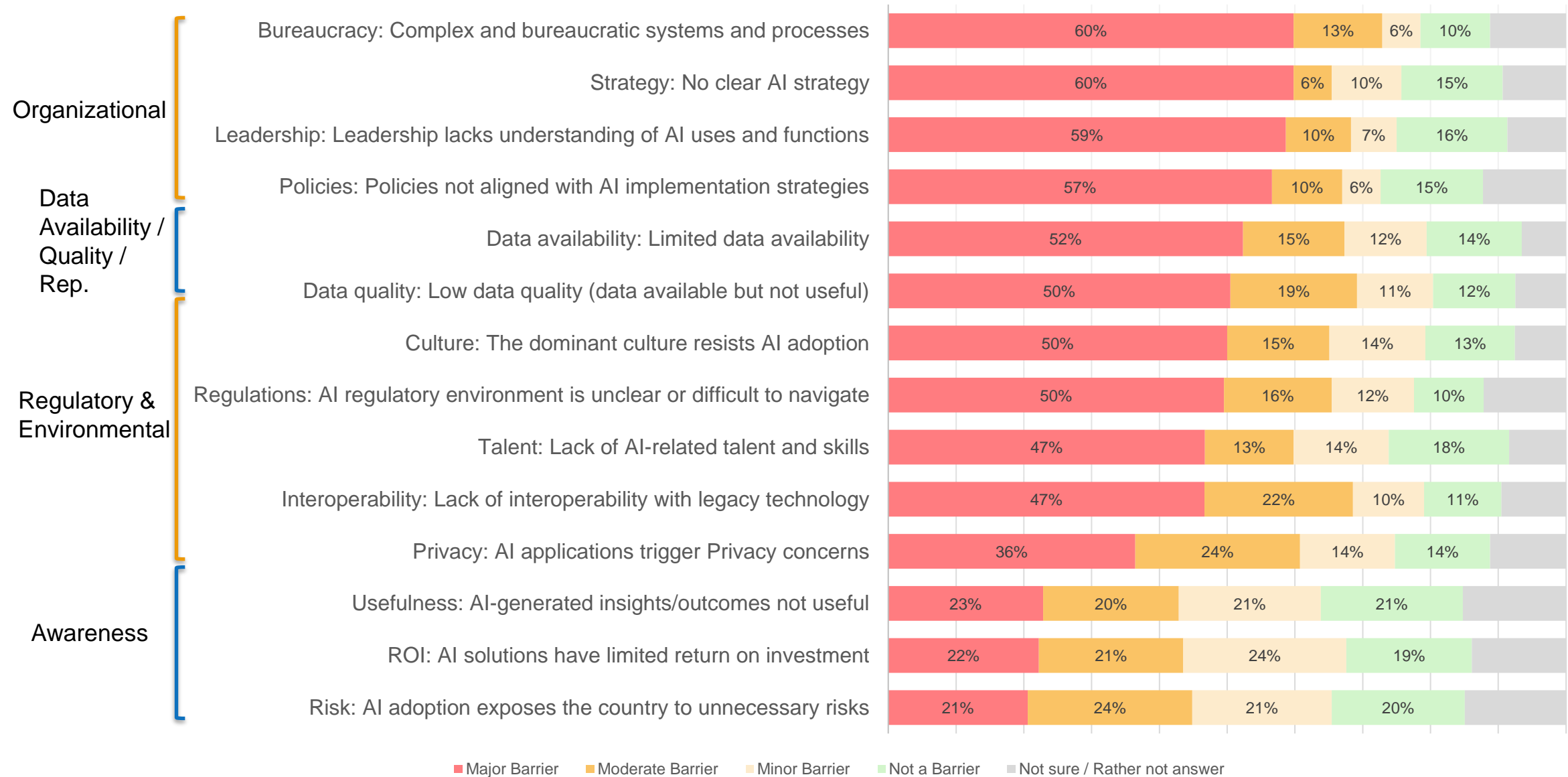
Generative AI Perceived Benefits in Government (local level)



Generative AI Perceived Benefits in Government (local level)



However..... Massive AI Barriers in the Arab States



The image features a futuristic, white and black robotic hand on the left, reaching out towards a human hand on the right. The background is a vibrant blue with glowing digital particles and patterns, creating a high-tech, futuristic atmosphere. The text is overlaid on the right side of the image.

Key AI's Societal Concerns in the Arab Region

The Societal Data (and AI) Governance Dilemmas



- Big data societal misalignment
- Unrestricted Mass surveillance
- Wide-scale Privacy infringement
- Misuse of data (Governments & Businesses)
- Misinterpretation of digital behaviors
- Safety dilemmas (AI causing harm)
- Economic concerns (AI destroying jobs)
- Bias and fairness (Automation / Algorithmic biases)
- “Black Box” / Explainability
- Faulty policy analysis

Current AI Practices Utilizing Societal Big Data in the Arab Region

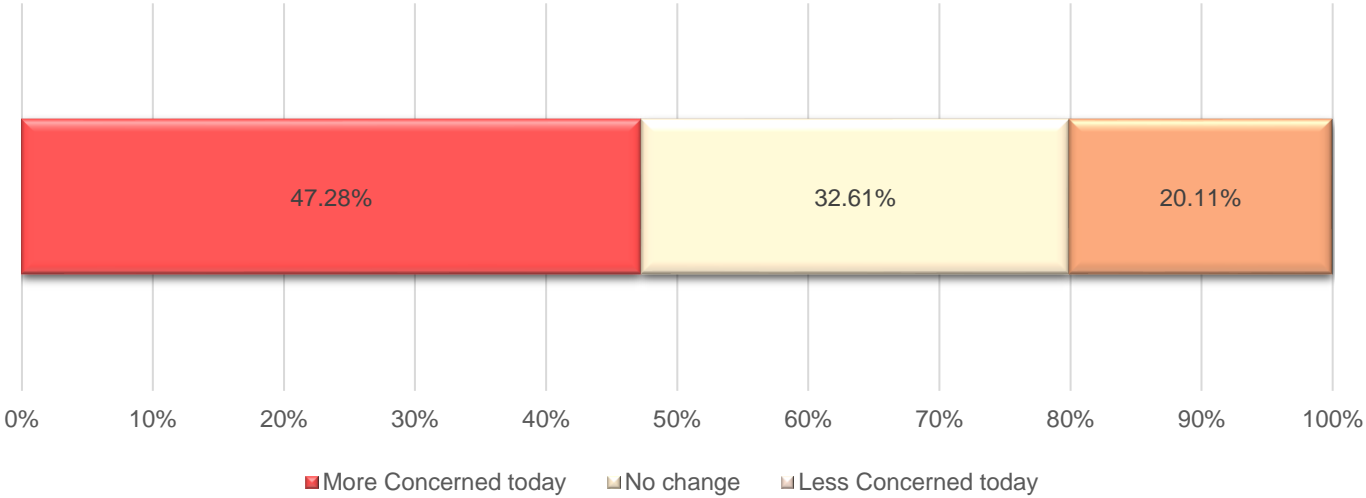
1. Mass Public Data Scraping and Retention (incl. LLM)
2. Behavioral influence (algorithmic nudging, BI)
3. Profiling
4. Social Network Analysis
5. Sentiment Analysis
6. Frequency Tracking
7. Geo-tracking
8. Behavioral Analysis
9. Inter-linking Data sources
10. Predictive analytics
11. Misinformation tactics
12. AI Bots deployments

1 in 2 Digital Leader in Arab Region

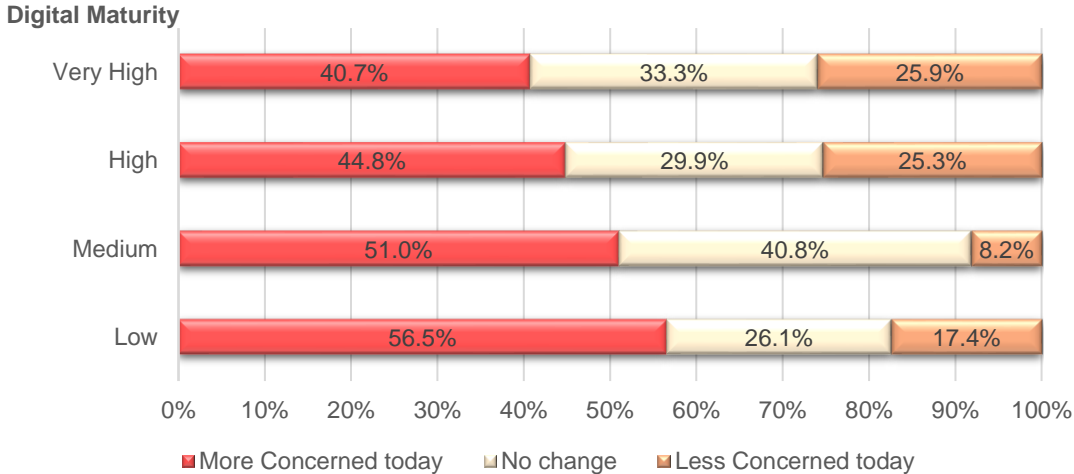
More Concerned about Privacy (comp. to 2 years earlier)

Internet Privacy (Arab Regional Avg.)*

Compared to 2 years ago, how concerned are you today about your online privacy?



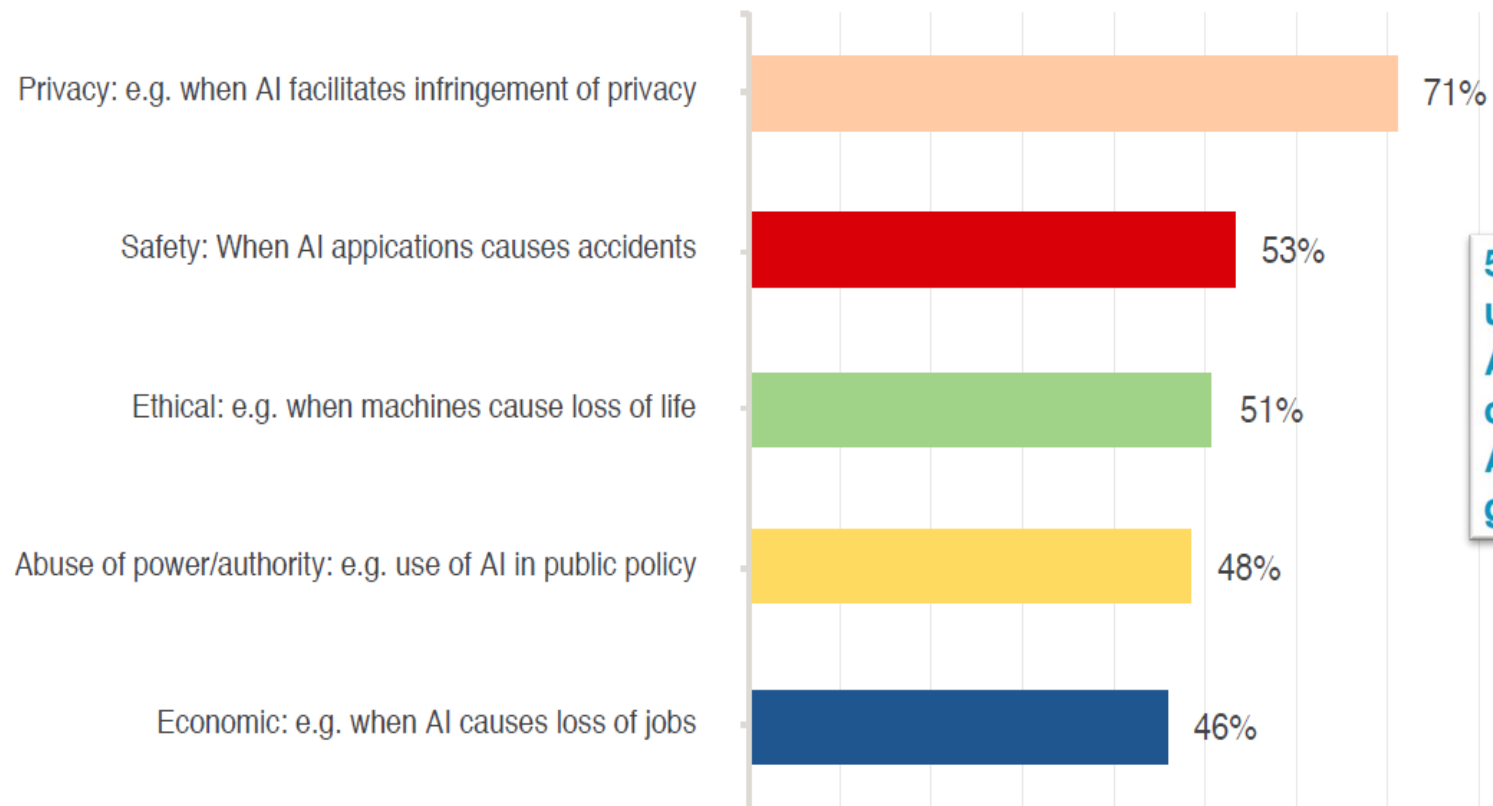
Internet Privacy**



**State of Digital Development (Fadi Salem 2022)

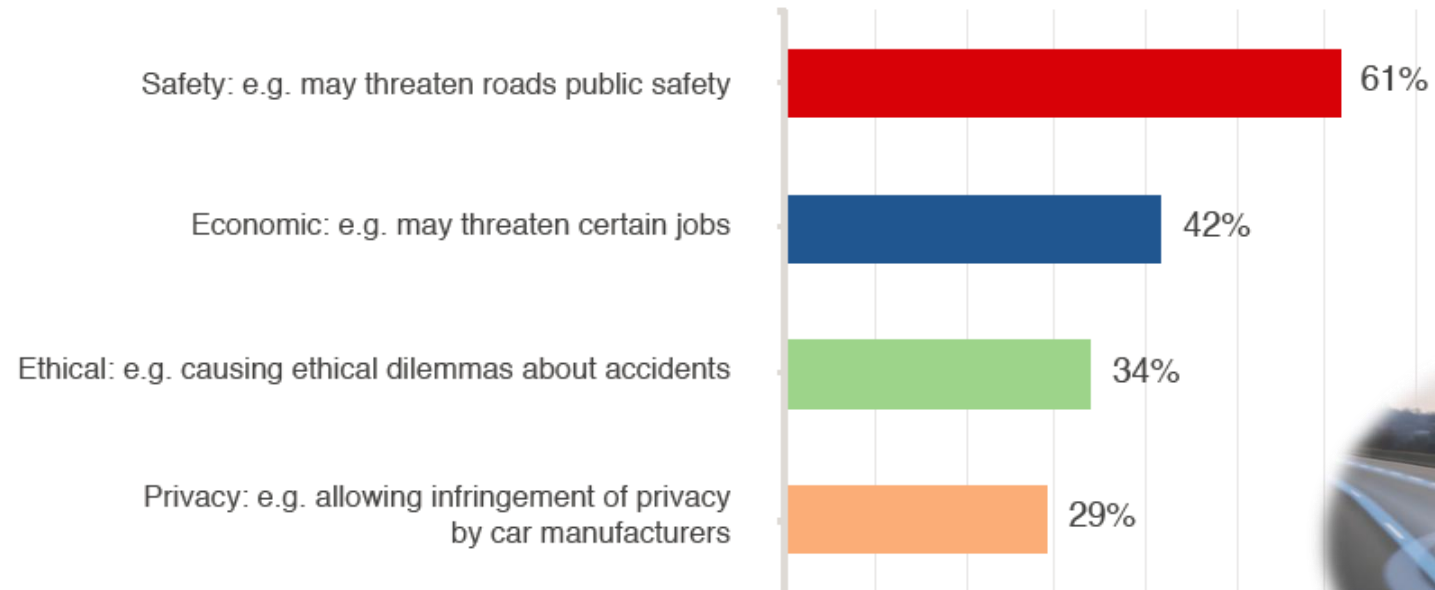
Specific Public Concerns about AI in the Arab Region

Artificial Intelligence Concerns



59% of internet users in the Arab region are concerned about AI applications in general

Public Autonomous Vehicles Concerns in the Arab States



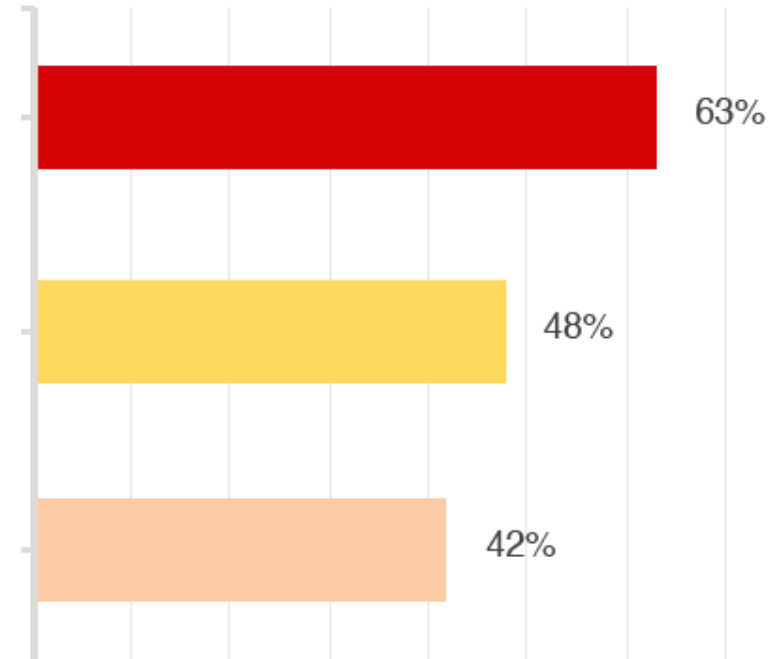
UAVs and Drones Concerns



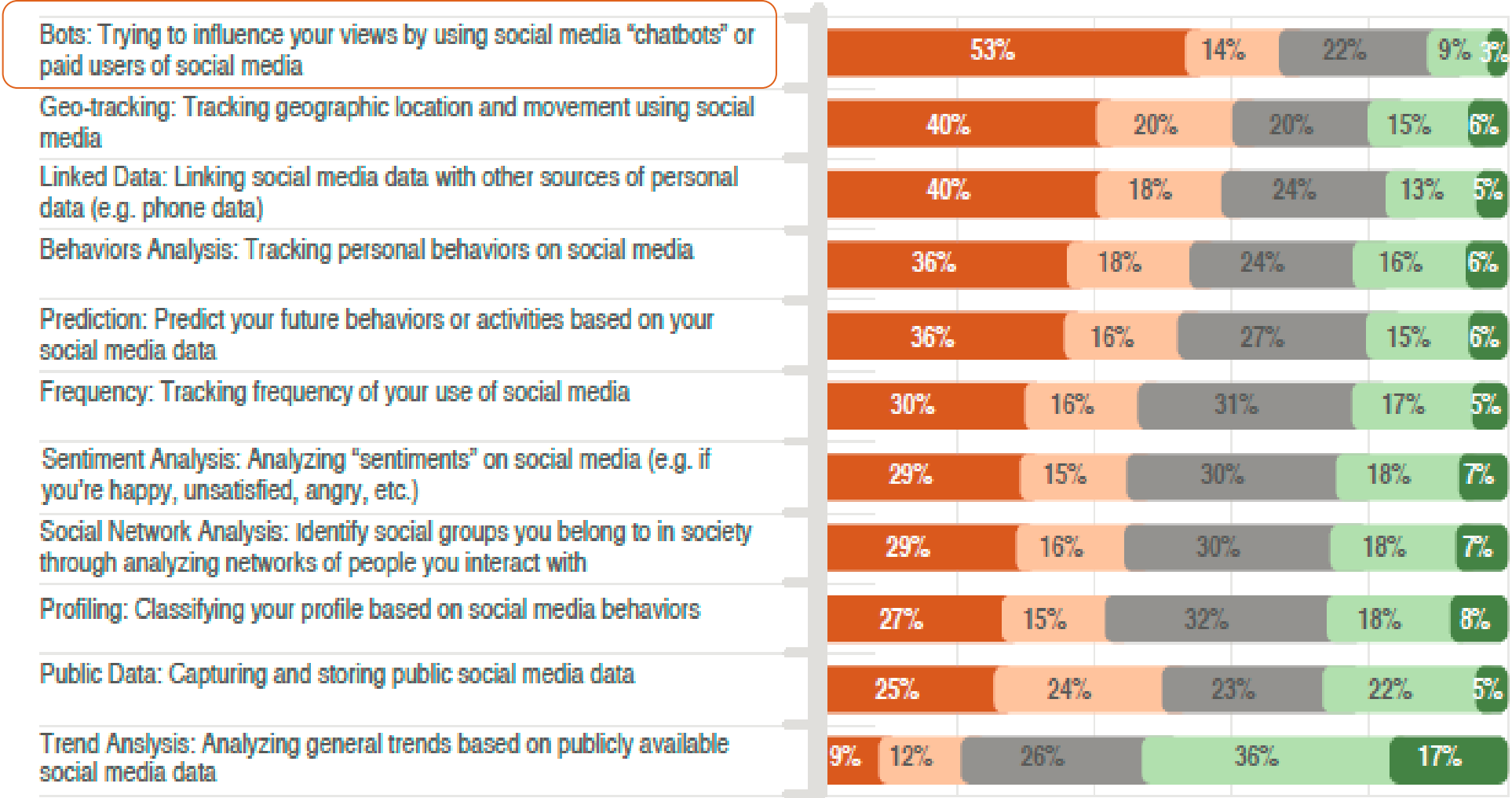
Safety: e.g. may threaten public airspace safety

Abuse of power and authority: may facilitate mass surveillance and other abuses of power

Privacy: e.g. infringement of privacy with cameras



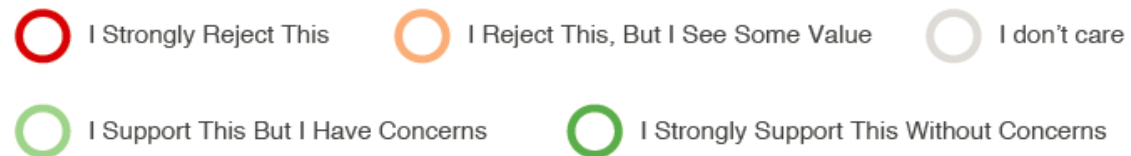
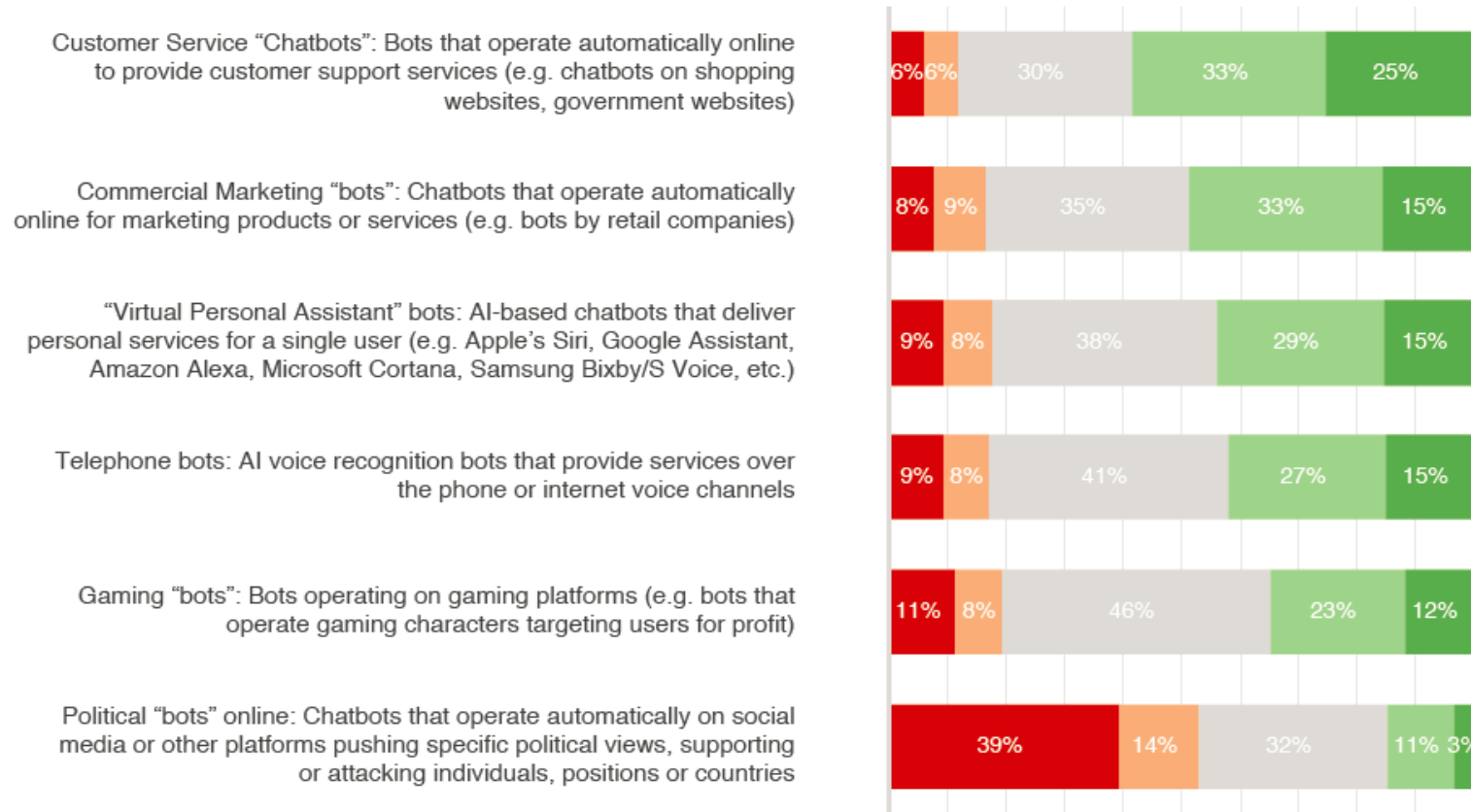
Public Concerns on Existing Government AI Practices



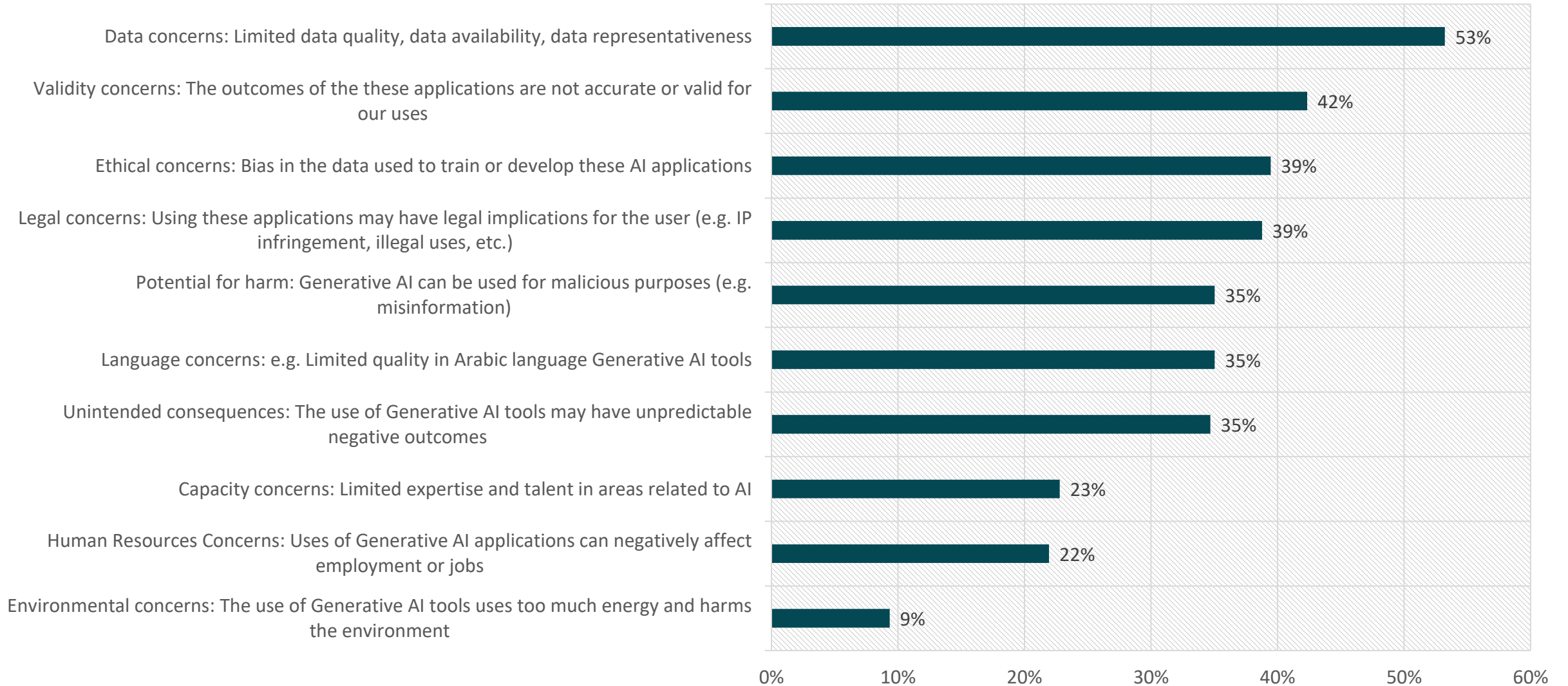
Source: Arab Social Media Report (2017), MBRSG www.ArabSocialMediaReport.com

Artificial Intelligence-based “Bots”, “chatbots” or “social bots”

(What is your opinion about the following practices and uses of “chatbots” by businesses, governments or other entities?)



Generative AI Concerns in Government (local view)



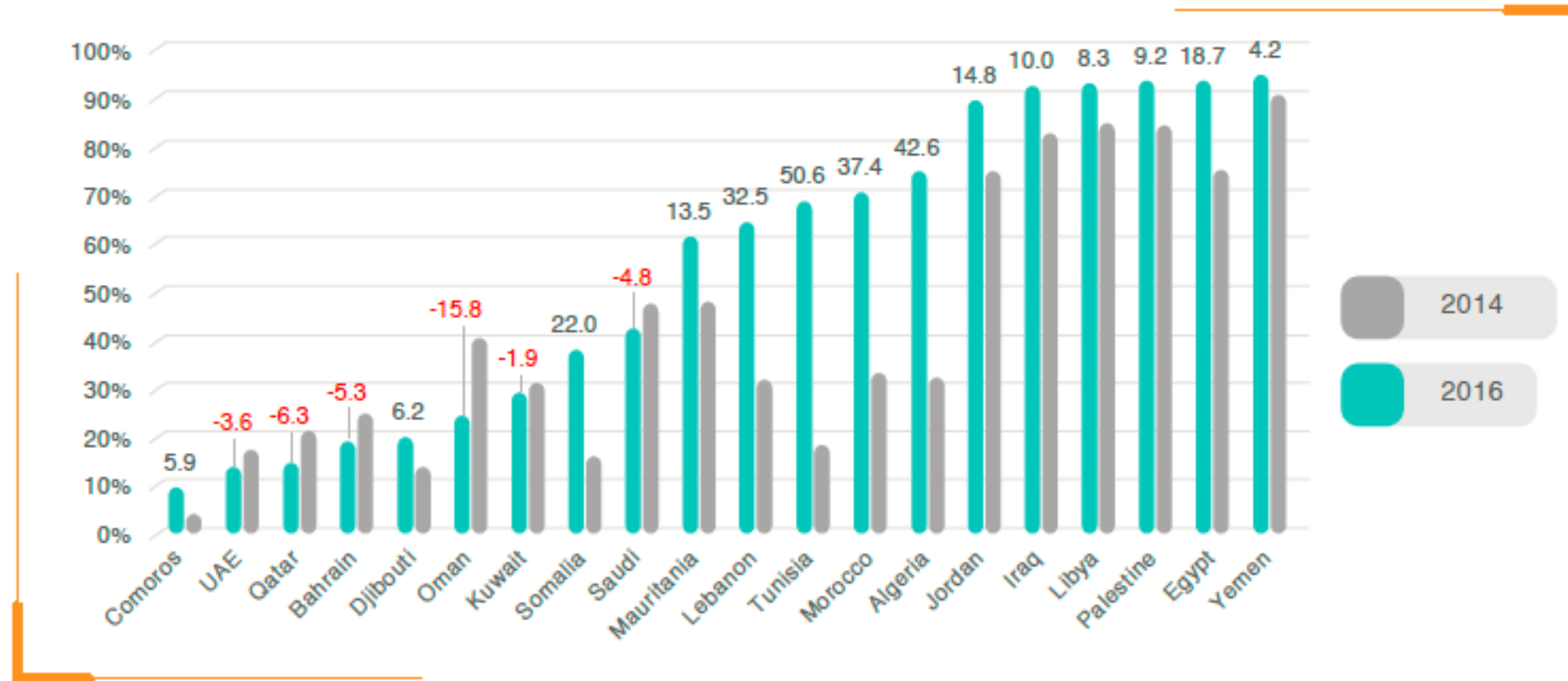
Limitations for AI/LLM Applications in Policymaking

The Case of Social Big Data Utilization in AI/ML
Applications

1) Flawed Representation

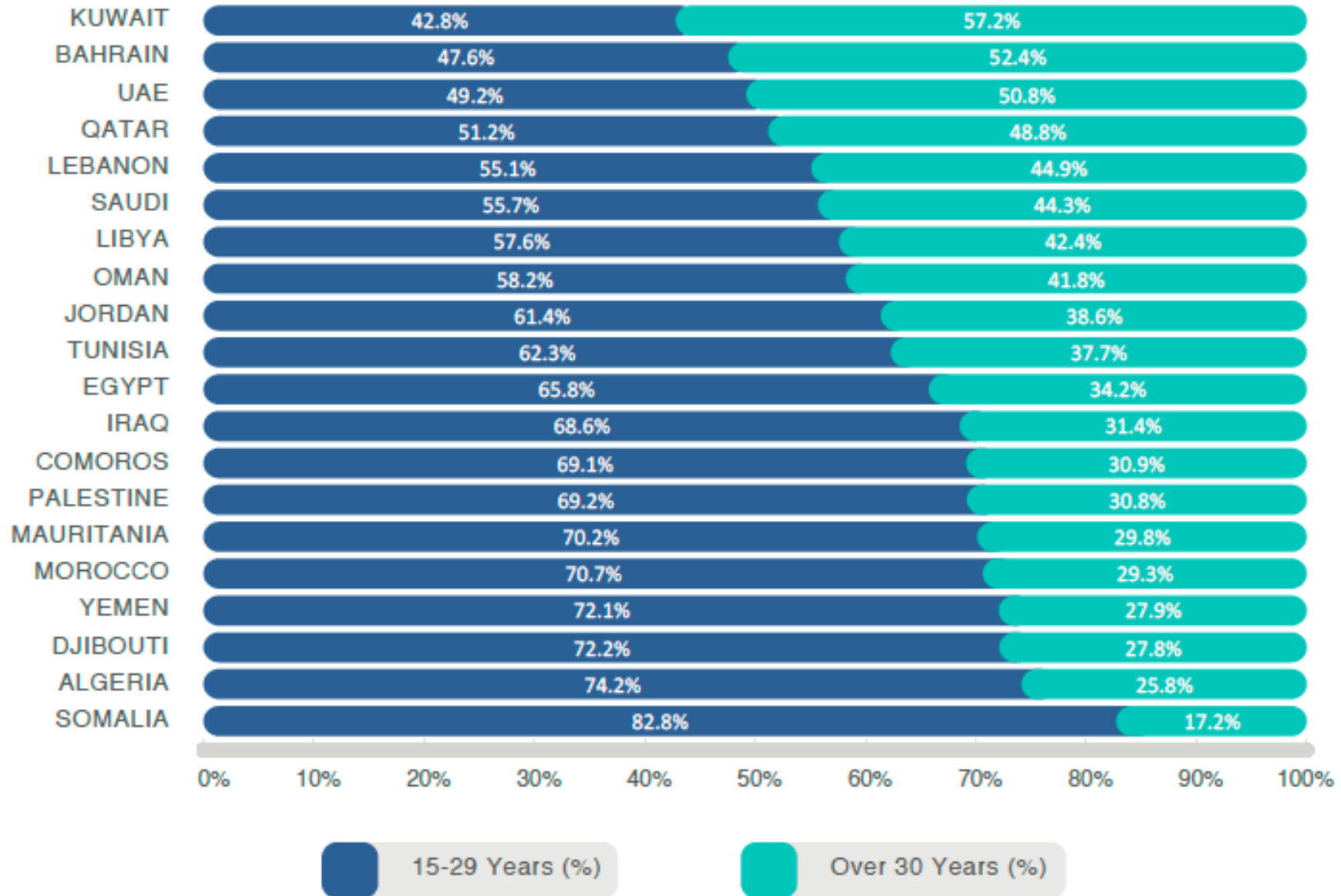
Language Breakdown of Social Media Users in Arab Region

Arabic Language: Percentage of Facebook Users in the Arab States Who Use Arabic Out of Total Users



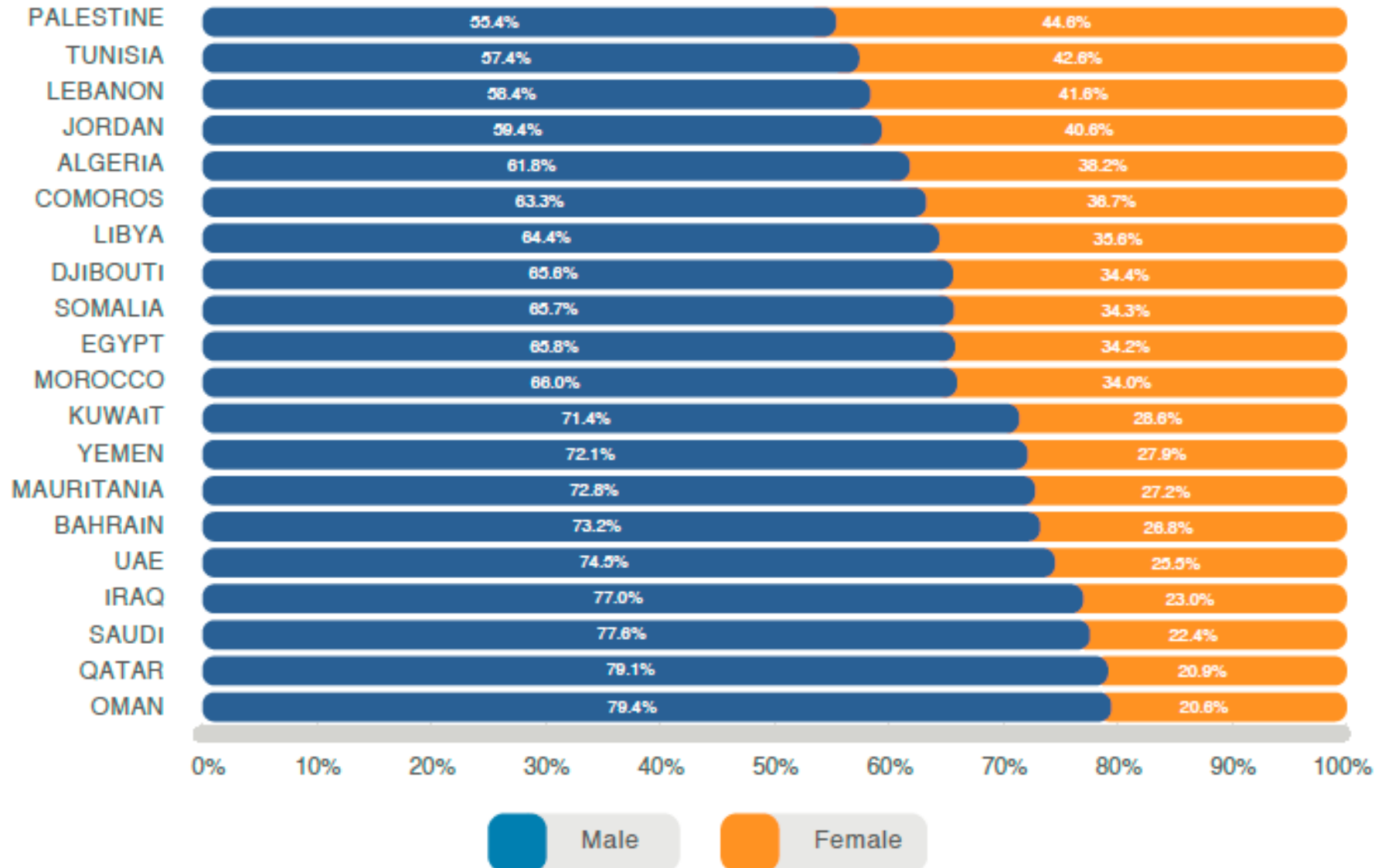
Flawed Representation (contd.)

Age Breakdown of Social Media Users in Arab Region



Flawed Representation (contd.)

Gender Breakdown of Social Media Users in Arab Region - Facebook

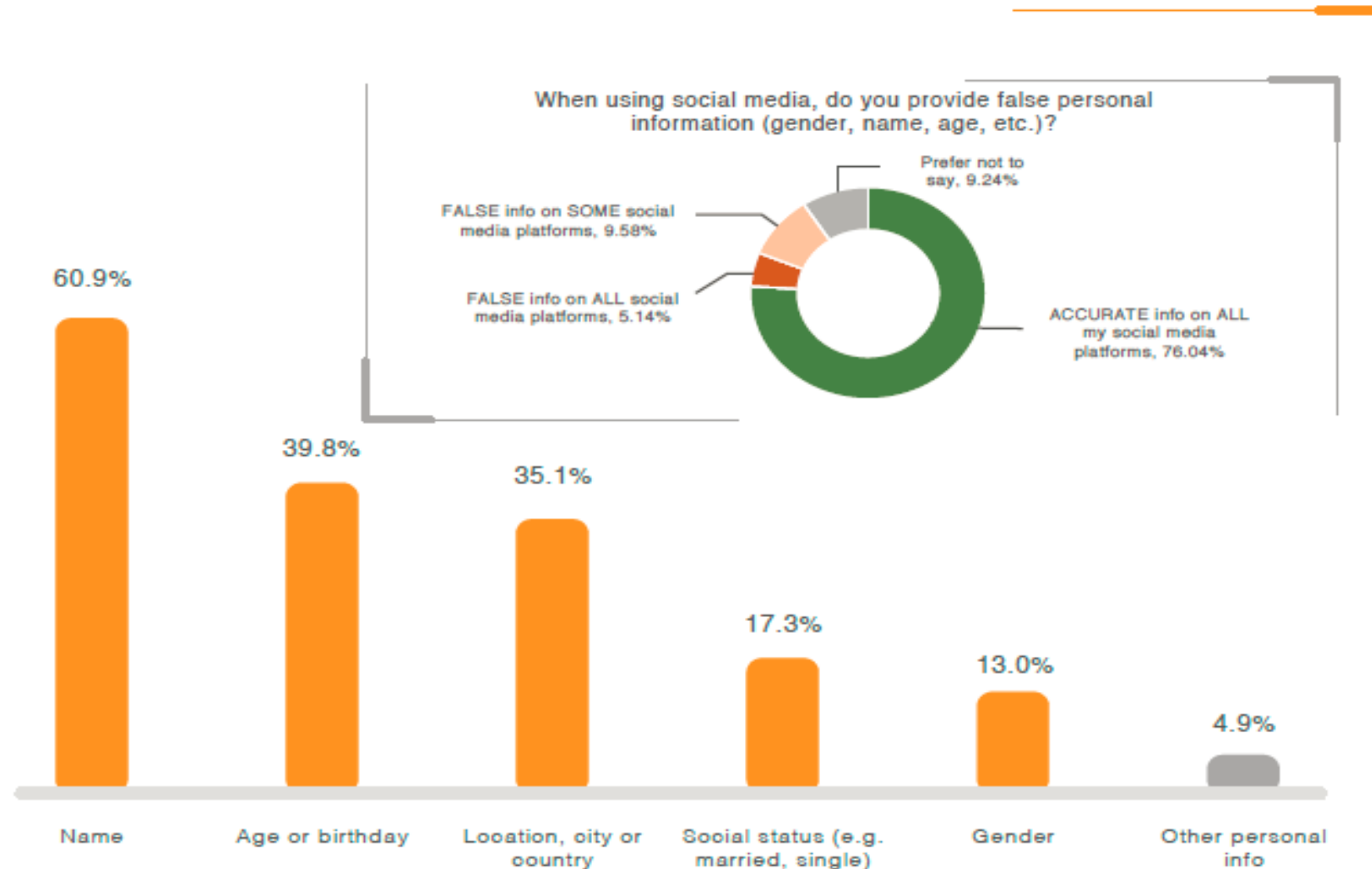


The Persistent Social Media Gender Gap



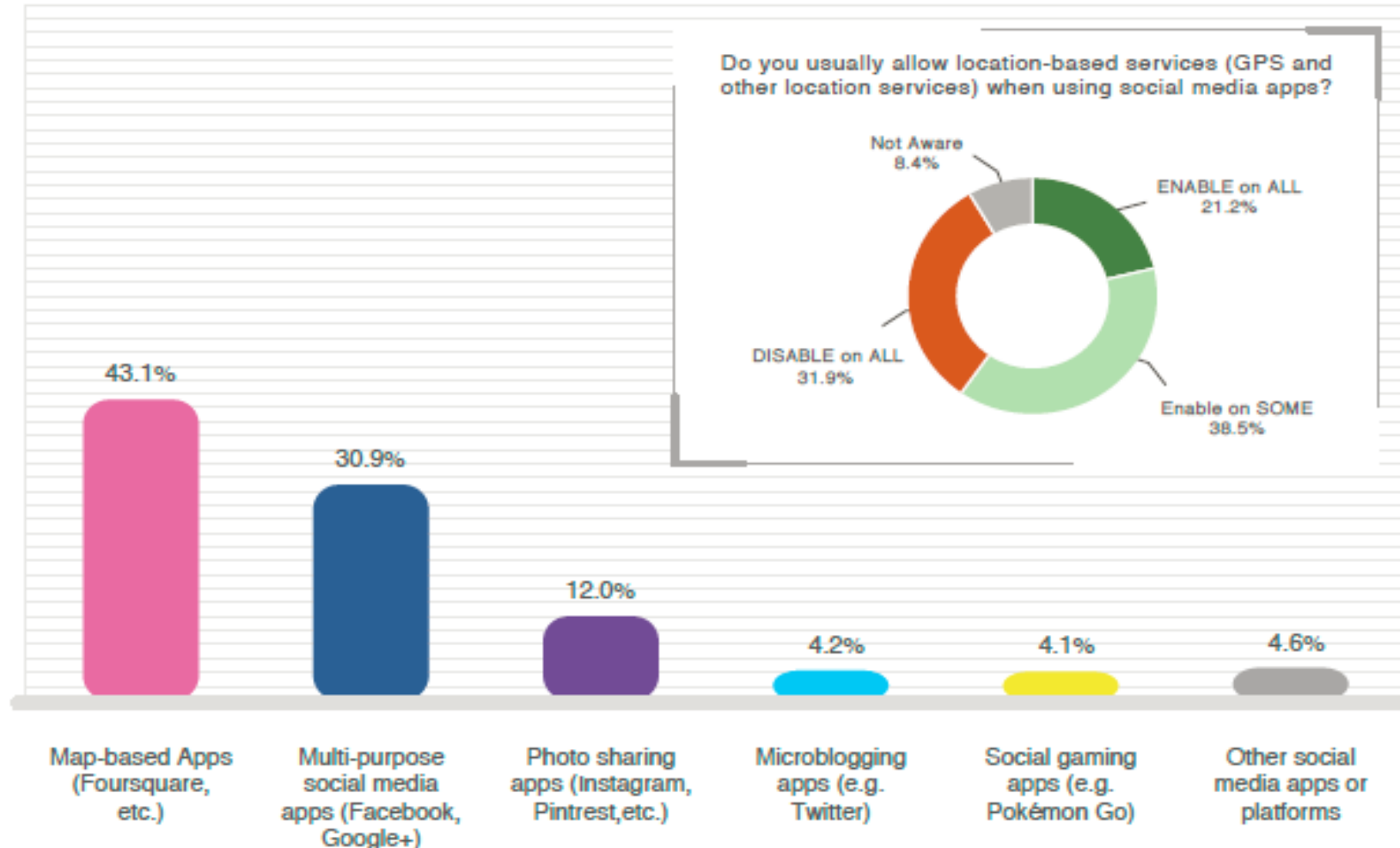
2) False Information:

What False Information do you Usually Provide on Social Media? (out of respondents who said they provide false information)



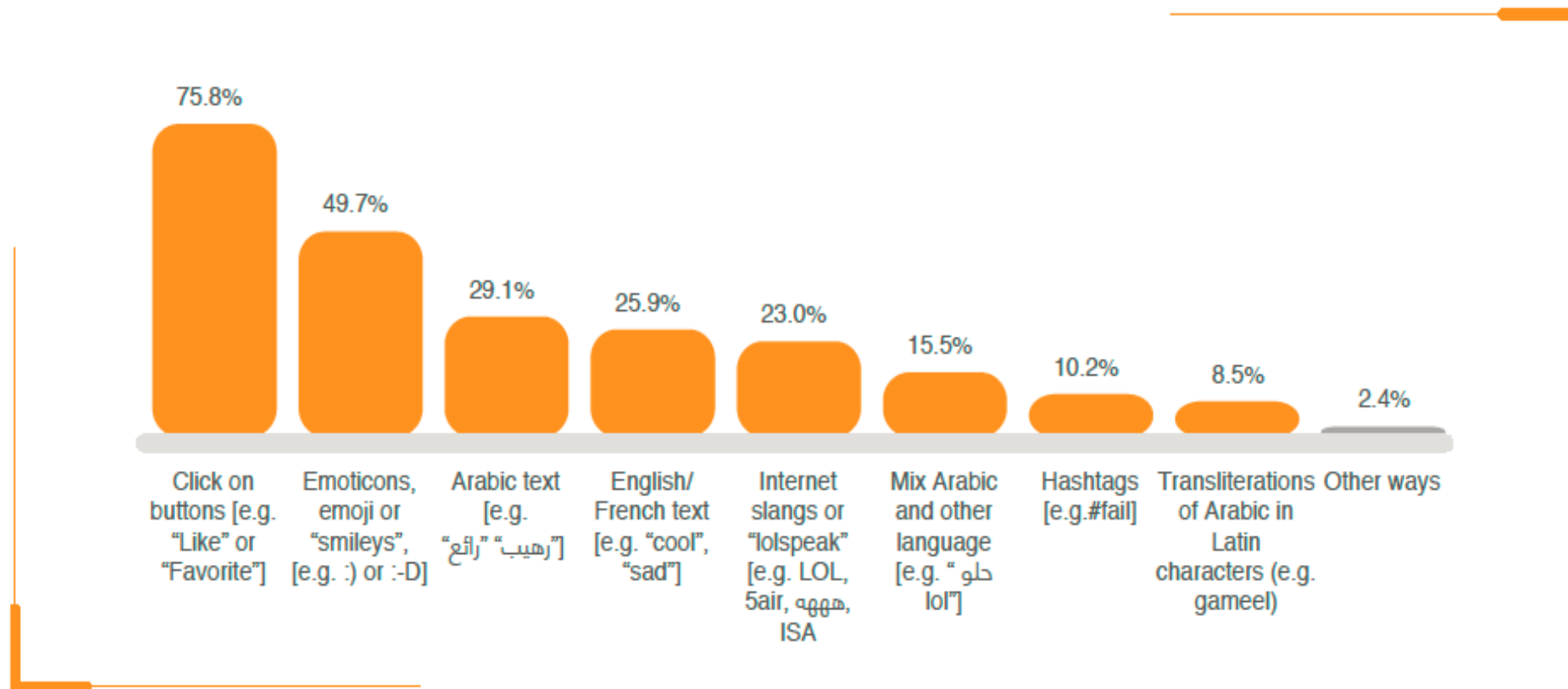
3) False Metadata (e.g. Geolocation):

When using social media (on mobile or other devices), on which platforms do you allow location-based services (e.g. GPS)? (out of respondents who said they Enable location services)



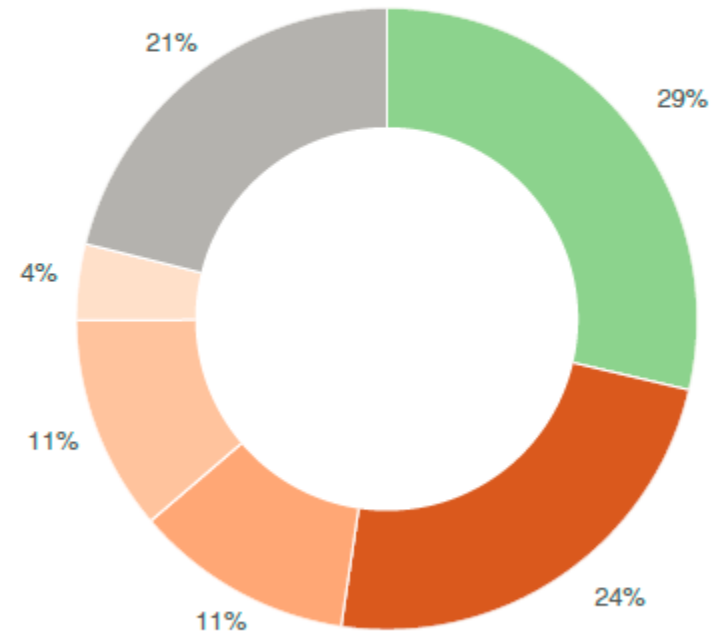
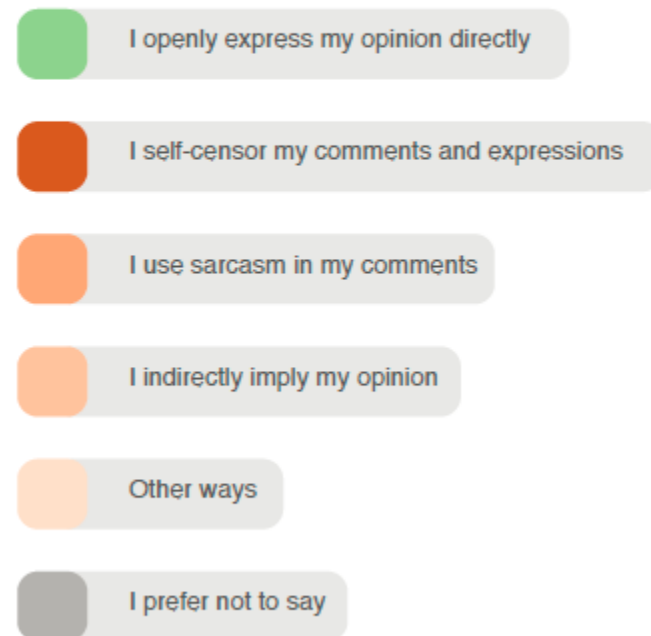
4) Modes of Expression (LLM / Generative AI limitations)

How Do You Usually Express Your Sentiments or Views When Using Social Media (e.g. satisfaction, happiness, disapproval, anger, etc.)?



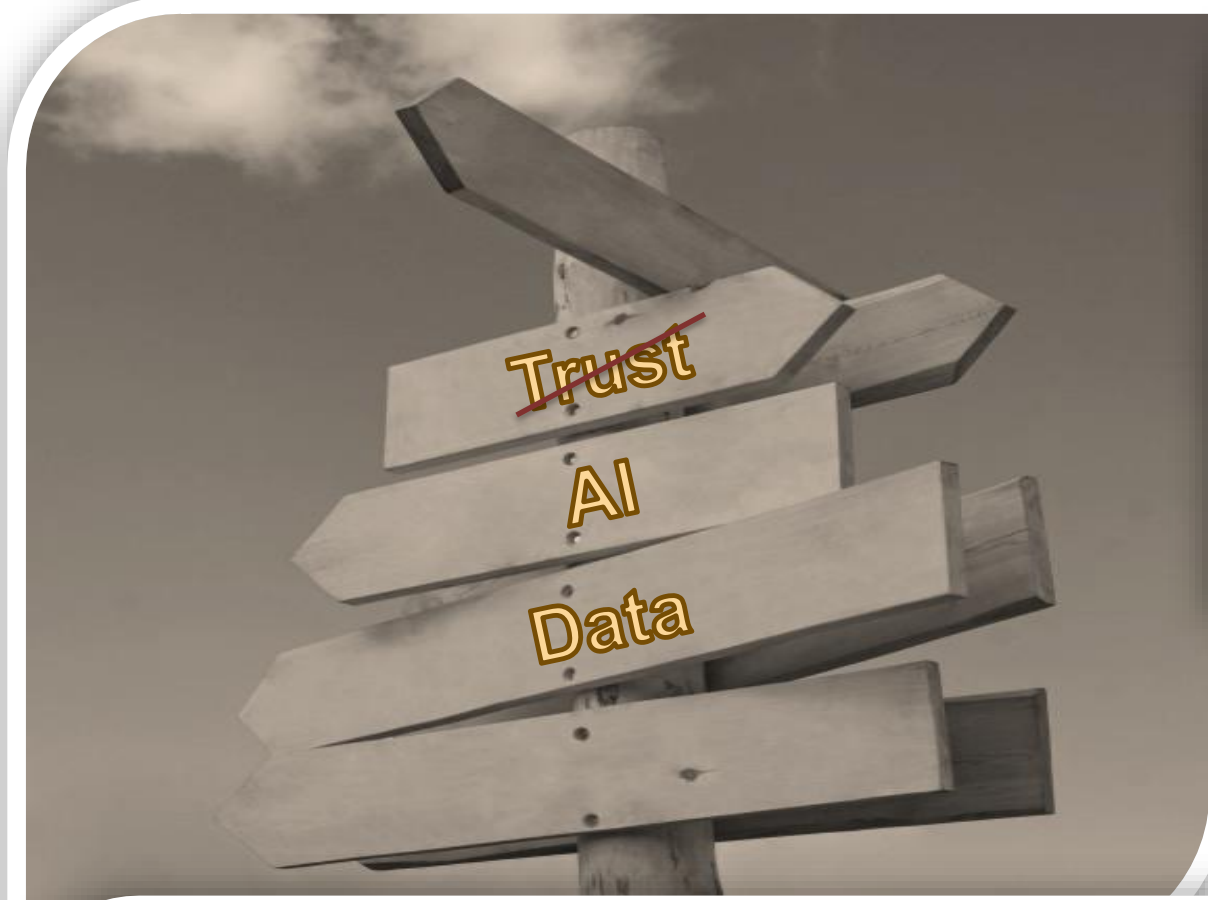
5) Restricted / Self-censored Societal Data

When Unhappy or Unsatisfied with a Government Policy, How do You Usually Express Your Views on Social Media?



6) The Rise Synthetic Data and AI-Generated Web Content





Overcoming AI's Barriers in the Arab Region

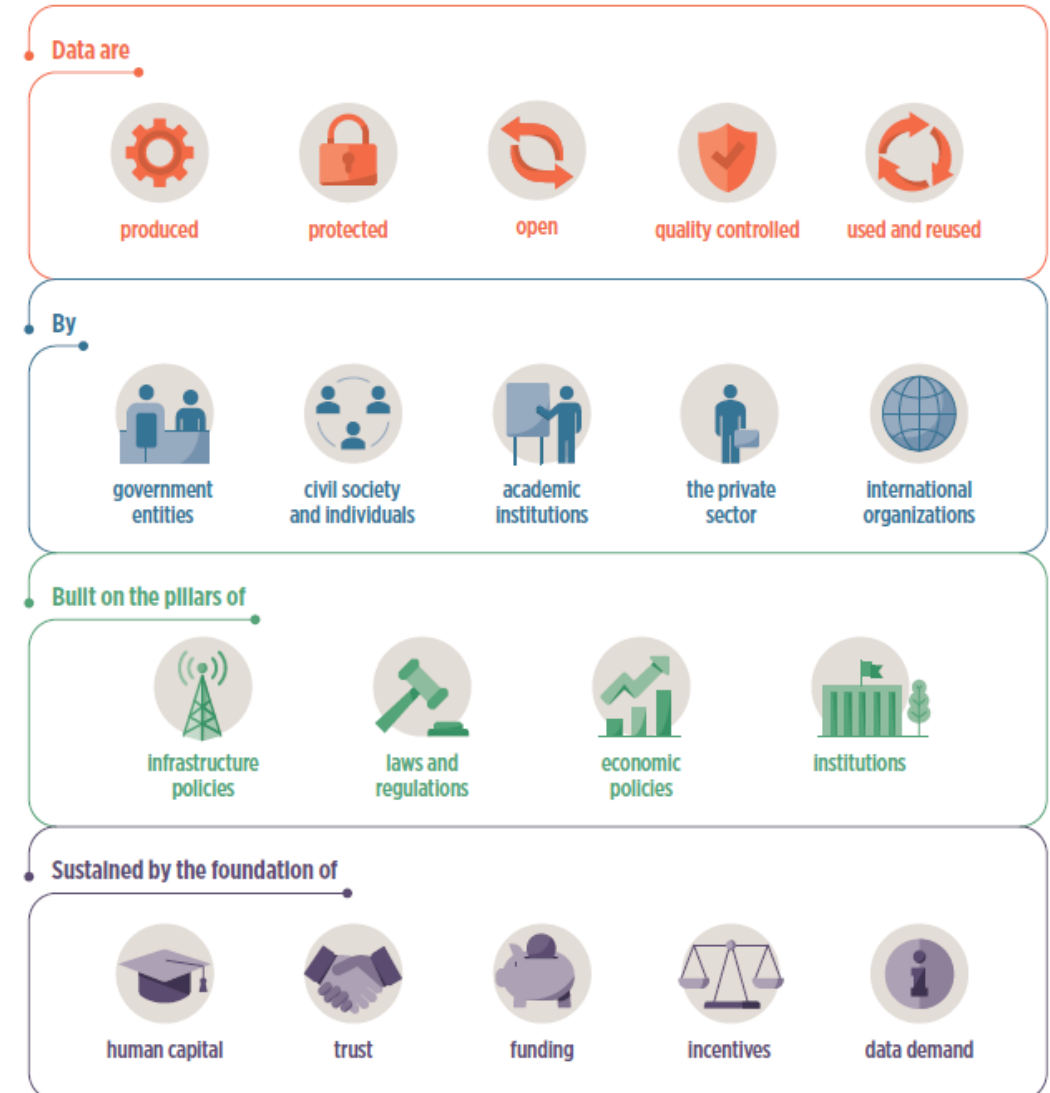
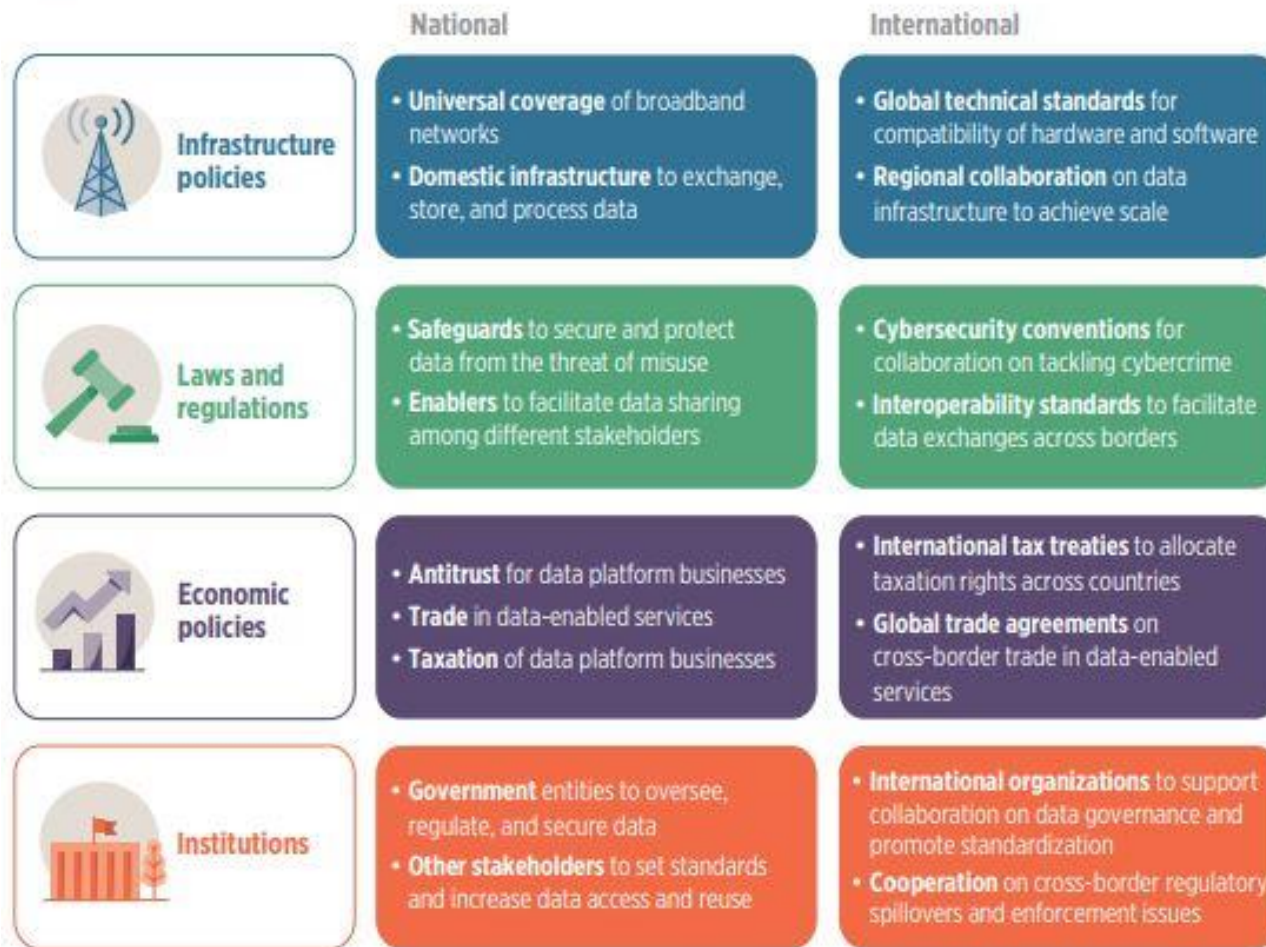


Principles of Digital Governance



Data Governance: The Key Foundational Priority for the Arab Region's AI Journey

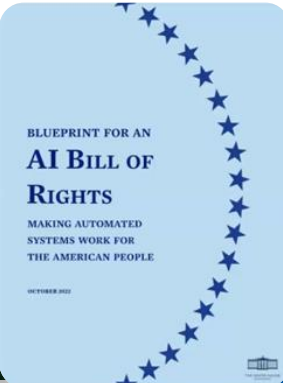
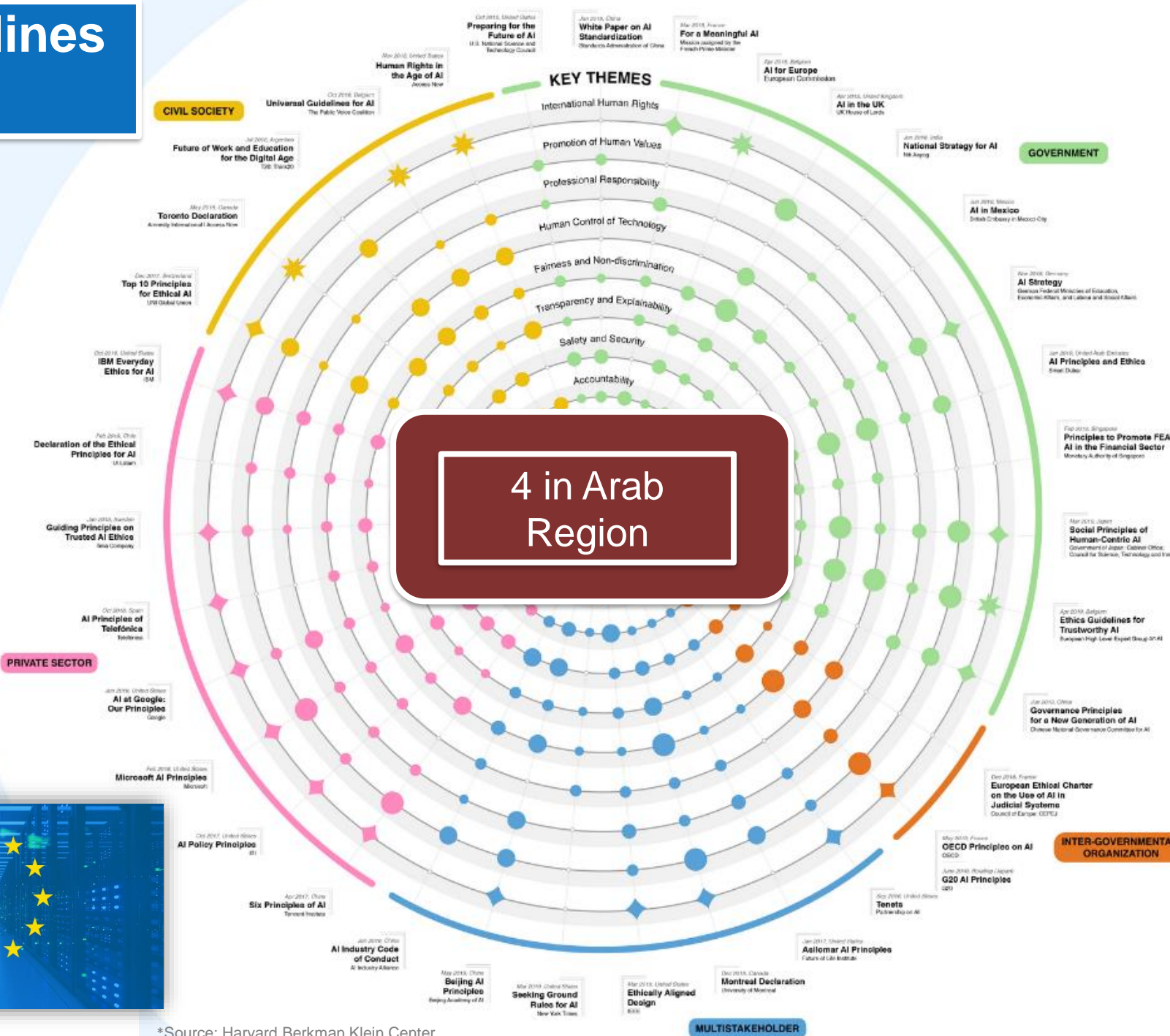
Figure 1.4 Data governance layers at the national and international levels



Source: WDR 2021 team.

AI Ethics Principles, Guidelines and Regulations

- 100+ AI Ethics principles globally - key thematic trends:
 1. Privacy
 2. Accountability
 3. Safety
 4. Security
 5. Transparency and explainability
 6. Fairness and Non-discrimination
 7. Human control
 8. Professional responsibility
 9. Promotion of human values
 10. Algorithmic bias



*Source: Harvard Berkman Klein Center

The Delicate Balance towards Responsible AI Governance

Privacy

Individual rights

Innovation Flow

Utility-maximizing

Public Value

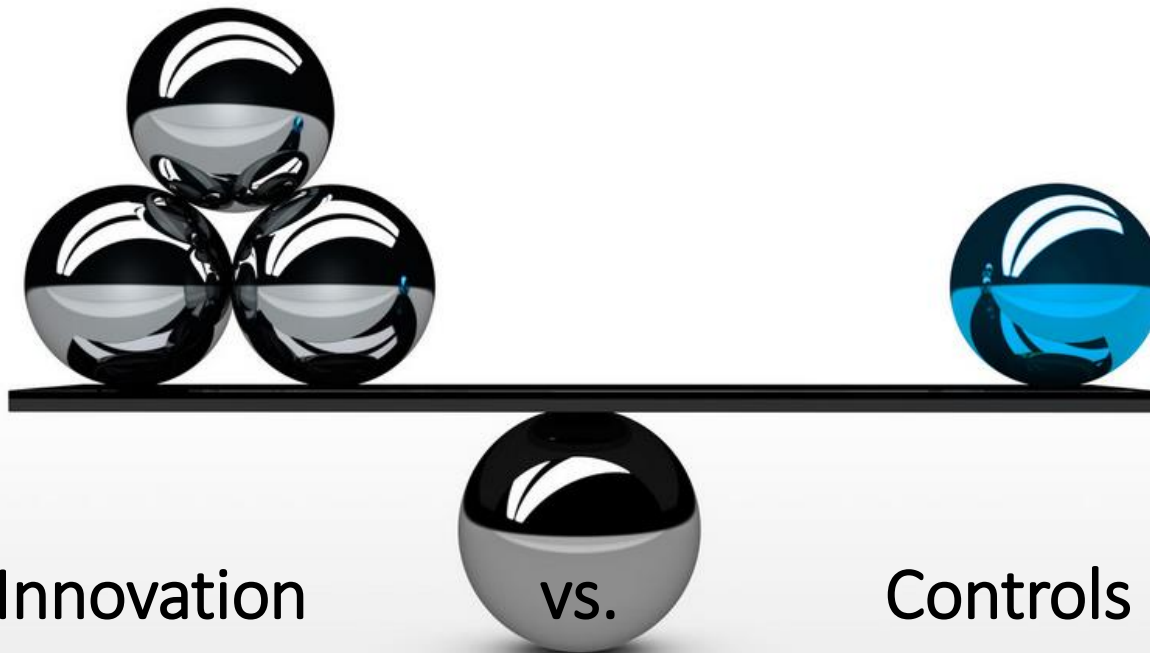
Security

Society's safety

Regulation

Risk-view

Economic Growth



Fadi Salem

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Chair, AI & Government Chapter, Digital Government Society

Policy Network on AI member, Internet Governance Forum

Lead Certified Artificial Intelligence Ethics Assessor / IEEE CertifAIId AI Ethics Program

AI Expert Group member / ISO SC42 WG1 on Governance Implications of AI

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