

# ***GOVERNING RESPONSIBLE AI AND DATA IN THE MENA REGION***



## **AI GLOSSARY: KEY TERMS**

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# AI GLOSSARY: KEY TERMS

## Access (Financial Inclusion)

“The availability of affordable and appropriate financial services to a given person.”

“Access is often seen as the goal of financial inclusion; however, access is difficult to measure.”

## AI ethics

A framework of interdependent values, principles, and actions that can guide societies in dealing responsibly with the known and unknown impacts of AI technologies on human beings, societies, and the environment and ecosystems.

This ethical framework guides societies' decision to accept or reject AI technologies by evaluating their impact on human dignity, well-being, and the prevention of harm.

## AI for development

“The potential contributions of AI to achieving sustainable development goals through addressing challenges in specific development areas including global health, human rights, environment, etc.”

## AI for good

Harnessing the potential of AI and mitigating its risks for the well-being of humanity by ensuring its ethical utilization and avoiding activities that harm people or the environment.

## AI for inclusion

AI systems should be powered by pattern recognition and classification that promote the inclusion of marginalized groups, including urban and rural poor communities, women, youth, ethnic and racial minorities, and people with disabilities. Inclusion involves addressing the roots of uneven access to and impact of AI-based technologies and how this amplifies global digital inequalities in health and wellbeing, education, and humanitarian crisis mitigation.

## AI governance

AI governance refers to the regulatory framework for the use of AI processes, methodologies, and tools to ensure its effective and responsible use through risk management and regulatory compliance.

## AI infrastructure

“AI infrastructure encompasses almost every stage of the machine learning workflow. It enables data scientists, data engineers, software engineers and DevOps teams to access and manage the computing resources to test, train and deploy AI algorithms.”

## AI readiness

AI readiness is an organization, country, or other entity's ability to deploy and use AI technologies in ways that create value for the entity and enable digital transformation.

## AI Strategies/ Policies

National AI strategies are plans by countries to deepen their use of AI technologies in ways that can benefit their economy. More than just technological adoption, National AI strategies require governments to completely rethink their understanding of business and productivity in order to create new areas of growth.





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## AI literacy (knowing & using AI)

The public's understanding of AI technologies and their abilities to live, learn and work through the use of AI in everyday life. This means moving beyond learning about AI toward knowing and understanding, using and applying, evaluating, and creating AI as well as differentiating between its ethical and unethical usages.

## AI Applications/ Applied AI

"The branch of artificial intelligence that brings it out of the lab and into the real world, enabling computers and computer-controlled robots to execute real tasks."

## Algorithm

"A set of rules that a machine can follow to learn how to do a task."

## Algorithm deployment

"Deployment is the method by which you integrate a machine learning model into an existing production environment to make practical business decisions based on data."

## Algorithm explainability

Explainability, or interpretability, is the notion that a machine learning model and its output can be explained in a way that makes sense to the average person. More traditional machine learning algorithms tend to be more readily explainable, but potentially less effective.

## Artificial intelligence

"The general concept of machines acting in a way that simulates or mimics human intelligence. AI can have a variety of features, such as human-like communication or decision making."

## Algorithm robustness

Algorithm robustness is a machine learning model's ability to cope with poor data quality, gaps or missing data, potential adversarial attacks, and the various errors and obstacles it may encounter when processing real-life data.

## Big Data

The term big data refers to data that are unstructured, time sensitive or simply too large to be processed by traditional data mining and handling techniques.

## Branchless Banking

Branchless banking encompasses all banking models and delivery channels that deliver financial services to clients through outlets other than full-service bank branches. This includes mobile banking, correspondent and agent banking, electronic banking, and the use of ATMs. Branchless banking facilitates financial inclusion by making banking accessible in remote areas and increasing affordability through automation.



# AI GLOSSARY: KEY TERMS

## Cloud computing

Cloud Computing enables access to and usage of shared computer resources such as storage and infrastructure, that can be supplied without direct active management from users. The cloud is a general metaphor to refer to a group of networked computer resources that can provide computing services to avoid up-front IT infrastructures costs.

## Crossborder Data Transfer

“The transfer of personal data to another country or jurisdiction. Data protection laws often require controllers to satisfy special requirements when transferring personal data cross-border.”

## Data ‘asymmetry’

The term data asymmetry refers to any situation where there is a disparity in access to data between different groups or parties.

## Data Augmentation

“A set of techniques to artificially increase the amount of data by generating new data points from existing data. This includes making small changes to data or using deep learning models to generate new data points.”

## Data Bias

“Data bias in machine learning is a type of error in which certain elements of a dataset are more heavily weighted and/or represented than others. A biased dataset does not accurately represent a model's use case, resulting in skewed outcomes, low accuracy levels, and analytical errors.”

## Data ‘blindness’ - ‘blur’

One main challenge with data in the MENA region is the inaccuracies that end up clouding out realities on the ground. One source of inaccuracy is data blindness, which occurs when an abundance of aggregated, unstructured data prevents the user from extracting the information needed to make decisions.

## Data collection

The process of gathering, measuring, and analyzing data from relevant resources to answer research questions and make informed, data-based decisions.

## Data communities

Stakeholders within the data ecosystem include the public sector, private sector, and civil society. They can be classified as follows :

- Official Data Communities (Government and national statistics systems).
- Private Sector Data Communities.
- Civil Society Data Communities.
- Scientific/Academic Data Communities.
- Open Data Communities.
- Big Data Communities.
- Citizen-Generated Data Communities.

## Data ecosystem(s)

The data ecosystem includes the public, private, and civil data communities as well as different kinds of data, law and legislative frameworks, technologies, platforms, and tools. The environment in which data is governed, used, and reused, is shaped by the complex interaction of these different data communities, infrastructure, or political and legislative frameworks.





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## Dataflow

“Dataflow is the movement of data through a system comprised of software, hardware or a combination of both. Dataflow is often defined using a model or diagram in which the entire process of data movement is mapped as it passes from one component to the next within a program or a system, taking into consideration how it changes form during the process.”

## Data for development

The use of different types of data (e.g. geo-spatial data, environmental data, economic data, administrative data, agriculture surveys, household surveys, etc) from different data sources (e.g. data from the public sector, private sector, civil society, etc.) to enhance progress towards achieving the objectives of sustainable development.

## Data governance

Data governance refers to a set of practices for managing data to increase its value and decrease data-related risks. It involves the design of a framework for the management of data, specifying data policies, standards, procedures, rights and accountabilities for an organization’s decision-making about its data. Data governance also involves monitoring compliance with this framework.

## Data inaccuracy

“Data inaccuracy is defined as “incorrect or imprecise data.” It can be caused by human error, incorrect assumptions, poorly calibrated equipment, or bad luck. Whatever the cause, inaccuracies can lead to wrong decisions being made, which can have serious consequences.”

## Data justice

Data justice is preoccupied with the social justice implications of our growing reliance on data-driven technologies. The concept draws from long-standing concerns with the social justice implications of information and communication systems. Building on these insights, data justice has predominantly emerged in the dual context of the growing focus on big data, machine learning, and artificial intelligence, and the limitations in how such developments have been framed and approached in relation to broader social justice agendas.

## Data localization

“Data localization is the practice of keeping data within the region it originated from. For example, if an organization collects data in the UK, they store it in the UK rather than transferring it to another country for processing.”

## Data management

While data governance refers to the framework for data-related decisions, data management means making and executing those decisions on a day-to-day basis, in accordance with data governance policies.

## Data mining

“The process of analyzing datasets in order to discover new patterns that might improve the model.”

## Data processing

Data processing refers to the process of collecting, recording, organizing, storing, and adapting or altering raw data so that it can be converted into useful information.



# AI GLOSSARY: KEY TERMS

## Data Protection

Data protection is the process of protecting data, and aims to strike a balance between individual privacy rights while still allowing data to be used for business purposes. This involves addressing the relationship between the collection and dissemination of data and technology, the public perception and expectation of privacy, and the political and legal underpinnings surrounding data.

## Data Protection Authorities

DPAs are independent public authorities that monitor and supervise the application of the data protection law. They provide expert advice on data protection issues, handle and investigate complaints that may have breached the law, and take corrective action where necessary.

## Data revolution

The transformative actions needed to bring data production and usage in line with the demands of the global development agenda. This involves improvements in how data is used, produced, collected, and disseminated; as well as efforts to cultivate data literacy; promote data transparency and accountability; and develop ways to measure progress towards these objectives.

## Data rights

Data Rights are the Government's nonexclusive license rights in two categories of valuable intellectual property, "technical data" and "computer software" delivered by contractors under civilian agency and Department of Defense (DoD; i.e., military) contracts.

There are eight (8) major data right types:

1. Unlimited
2. Limited
3. Copyrighted
4. Government Purpose Rights
5. Specifically Negotiated License Rights
6. Small Business Innovative Research (SBIR) Data Rights
7. Commercial Technical Data License Rights

Commercial Computer Software Licenses.

## Data scraping

"Data scraping, also known as web scraping, is the process of importing information from a website into a spreadsheet or local file saved on your computer. It's one of the most efficient ways to get data from the web, and in some cases to channel that data to another website."

## Data localization

"Data localization is the practice of keeping data within the region it originated from. For example, if an organization collects data in the UK, they store it in the UK rather than transferring it to another country for processing."

## Data security

Data security is the practice of protecting digital information from unauthorized access, corruption, or theft throughout its entire lifecycle. It encompasses everything from the physical security of hardware and storage devices, access controls, the logical security of software applications, to organizational policies and procedures geared towards securing information.

## Data standardization

"Data standardization is the critical process of bringing data into a common format that allows for collaborative research, large-scale analytics, and sharing of sophisticated tools and methodologies."

## Data subject

A data subject is any person who can be identified via factors that indicate their physical, physiological, genetic, mental, economic, cultural, or social identity. These identifying data can include anything from the person's name, to their ID number, or location data.





# AI GLOSSARY: KEY TERMS

## Data traffic

“Network traffic is the amount of data moving across a computer network at any given time. Network traffic, also called data traffic, is broken down into data packets and sent over a network before being reassembled by the receiving device or computer.”

## Data transmission

“Data transmission is the transfer of data from one digital device to another. This transfer occurs via point-to-point data streams or channels. These channels may previously have been in the form of copper wires but are now much more likely to be part of a wireless network.”

## Deep learning

“A function of artificial intelligence that imitates the human brain by learning from the way data is structured, rather than from an algorithm that’s programmed to do one specific thing.”

## Digital divide

“The gap between individuals, households, businesses and geographic areas at different socio-economic levels with regard to both their opportunities to access information and communication technologies (ICTs) and to their use of the Internet for a wide variety of activities.”

## Digital financial services

Basic financial services offered through digital channels like mobile phones, point-of-sale (POS) devices, or the networks of small-scale agents. While this can dramatically lower costs for customers and service providers, it also raises concerns over data protection and privacy.

## Digital gender divides

The digital divide is the difference between groups with access to technology and the internet and groups without. Girls and women often have less access to technology compared to their male counterparts, owing to different factors including financial barriers, social stigma, and gender norms.

## Digital inclusion

“The ability of individuals and groups to access and use information and communications technologies.”

## Digital literacy

“An individual’s ability to search, find, evaluate, and compose clear information through typing, writing, tapping, and by using other mediums (e.g., multimedia videos, video calling, and messaging) on various digital platforms, which requires a basic level of computer competency (Bawden, 2008).”

## Digital platforms

A digital platform is the online infrastructure within which transactions and exchanges between users occur. In business enterprise terms, a digital platform can be thought of as the space where exchanges of information, goods, or services occur between producers and consumers, as well as the community that interacts within said platform.



# AI GLOSSARY: KEY TERMS

## Digital rights

“Digital rights refers to the relationship between copyrighted digital works (such as film, music and art) and user permissions and rights related to computers, networks and electronic devices. Digital rights also refers to the access and control of digital information.”

## Digital transformation

“a process that aims to improve an entity by triggering significant changes to its properties through combinations of information, computing, communication, and connectivity technologies.”

## E-banking

“Also known as electronic banking; is a type of branchless banking that uses the internet to deliver financial services. It is more frequently found in developed nations because it requires access to a computer that is connected to the internet.”

## Economic statistics

Measures of financial and economic performance, including labor force, employment, imports and exports, and other industrial activities.

## Environmental data

Continuous monitoring of a group of environmental variables — such as biological diversity, air quality, water resources, forests, or change in land use — through ground stations or satellite photography.

## Ethnic data collection

Collecting data among ethnic minorities to help reduce ethnic inequalities and disparities.

## Financial capability

“The combination of knowledge, understanding, skills, attitudes, and especially behaviors which people need in order to make sound personal finance decisions, suited to their social and financial circumstances.”

## Financial inclusion

“A state in which all people who can use them have access to a full suite of quality financial services, provided at affordable prices, in a convenient manner, and with dignity for the clients. Financial services are delivered by a range of providers, most of them private, and reach everyone who can use them, including disabled, poor, rural, and other excluded populations.”

## Financial literacy

“The ability to understand how to use financial products and services and how to manage personal, household, or micro-enterprise finances over time. Improvements in literacy levels can be achieved through financial education.”





# AI GLOSSARY: KEY TERMS

## Generalization of AI

Generalization refers to the ability of a machine learning model trained on a given dataset to properly adapt to previously unseen data. It demonstrates how well the model is trained to adequately classify and forecast new data.

## Geographical Spatial Data

Specific data and information on sites (including inputs of other data sources mentioned above) spatial photography, including storage places and basic geographic data layers.

## Household surveys

Survey of a sample of randomly selected households to provide data on demographic and socio-economic characteristics.

## Human or people-centered AI

Human or people-centered AI refers to well-designed technologies that strike a balance between high levels of human control and computer automation. Technologies that possess these qualities can be more widely adopted and increase human performance, since they offer enough control for their user to comfortably leverage the benefits of the technology, while automating functions that do not require human input. her industrial activities.

## Indigenous knowledge

Indigenous knowledge, also referred to as local knowledge, is a set of perceptions, information, and behaviors that communities have developed for centuries in order to live in their environment and leverage their natural resources.

## Infodemic

An infodemic is the rapid and far-reaching spread of too much information, including false or misleading information, in digital and physical environments during a disease outbreak, such as in the case of the COVID-19 pandemic.

## Informal financial service provider

Informal financial service providers are unregulated providers of financial services. These entities are usually community-based and not registered with the government, such as moneylenders or pawnbrokers. Owing to this informality, their services can be convenient but may also be costly or unreliable.

## Knowledge justice

Knowledge justice provides a conceptual framework to apply the principles of social justice in the production and dissemination of knowledge. Within this framework, respect and recognition is given to the scientific knowledge produced by communities whose voices have been historically marginalized at the expense of a small elite.

## Machine intelligence

“An umbrella term for various types of learning algorithms, including machine learning and deep learning.”



# AI GLOSSARY: KEY TERMS

## Machine learning

“This subset of AI is particularly focused on developing algorithms that will help machines to learn and change in response to new data, without the help of a human being.”

## Microfinance Institutions (MFIs)

MFIs are institutions that provide financial services to low-income populations, often with a focus on microenterprise credit. They can take the form of banks, non-bank financial institutions, credit unions, NGOs, or any other financial institution serving low-income populations.

## Misinformation

The spread of false information, whether intentionally or unintentionally. Misinformation undermines the process of collectively acquiring information, filtering, and sharing it (collective sense-making) due to the lack of reliable and accurate resources. In this glossary, we turn the spotlight on AI and data. We are interested in the ways misinformation in and about AI and data can travel within MENA societies.

## Mobile banking

Mobile banking is the act of completing financial transactions, such as paying bills or sending money abroad, on a mobile device (e.g., phone or tablet). Mobile banking enables a client to bank anywhere at any time, but may also raise security concerns and pose certain limitations compared to banking in person or on a computer.

## Natural Language Processing (NLP)

Indigenous knowledge, also referred to as local knowledge, is a set of perceptions, information, and behaviors that communities have developed for centuries in order to live in their environment and leverage their natural resources.

## Point of sale device

“A small, portable device that facilitates an electronic financial transaction. POS devices can serve as a banking outlet in certain cases. Because they are inexpensive and easily transportable, they play an important role in closing the location gap and bringing access to financial services in rural areas and those with underdeveloped infrastructure.”

## Responsible AI

“The practice of designing, developing, and deploying AI with good intention to empower employees and businesses, and fairly impact customers and society—allowing companies to engender trust and scale AI with confidence.”

## Robotics

“Robotics is a branch of engineering that involves the conception, design, manufacture, and operation of robots. The objective of the robotics field is to create intelligent machines that can assist humans in a variety of ways.”

## Structured data

Data that has been organized into a formatted repository, typically a database, so that its elements can be more effectively processed and analyzed.





# AI GLOSSARY: KEY TERMS

## Technological (digital) infrastructure

“Digital infrastructure refers to the digital technologies that provide the foundation for an organization's information technology and operations.”

## Traditional knowledge

Traditional knowledge is the know-how, skills, and practices developed and passed on over several generations within a community. A community's traditional knowledge often forms part of its cultural or spiritual identity.

## Unstructured data

“Digital information that cannot be stored efficiently in a relational database (RDMS) because it does not use pre-set data models or schemas.”

## Usage (Financial Inclusion)

Usage is the act of employing or utilizing a financial service. Since usage can be measured empirically, it is often used as a way to measure access to the financial service in question. This method can be misleading, however, since clients may have access to a service but still decide not to use it.



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