New Technologies for Sustainable Development

PERSPECTIVES ON INTEGRITY, TRUST AND ANTI-CORRUPTION

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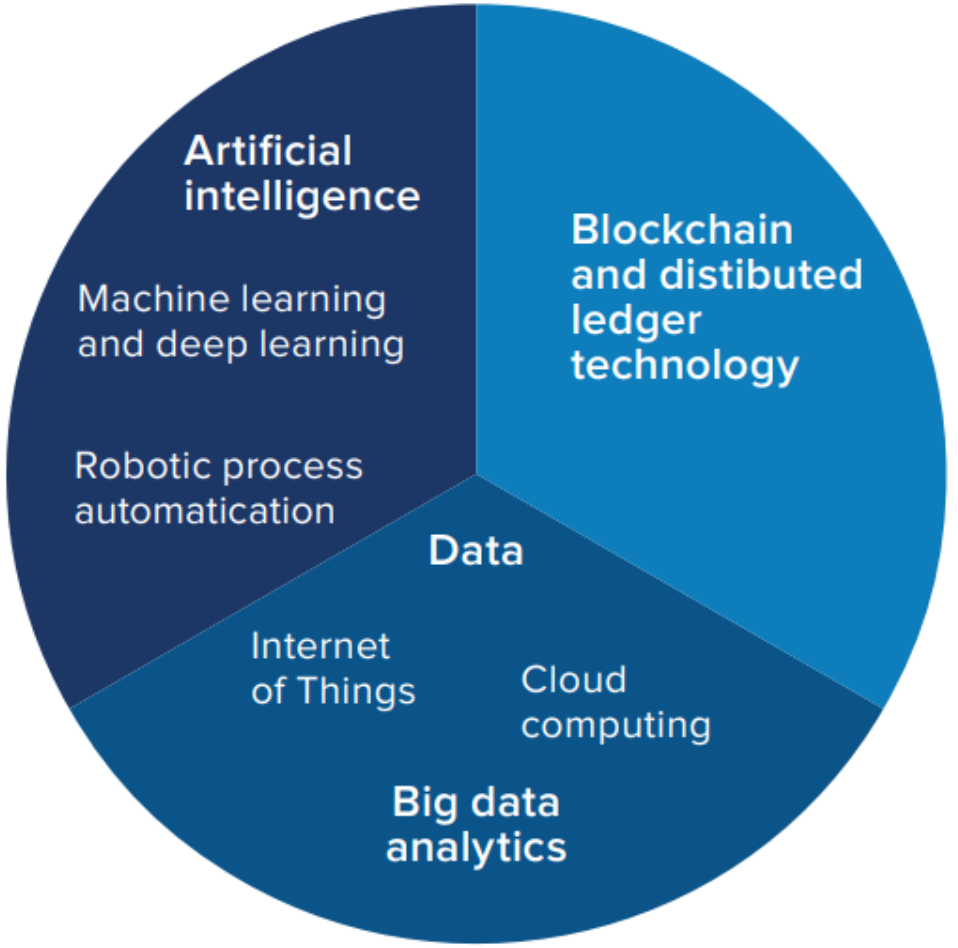
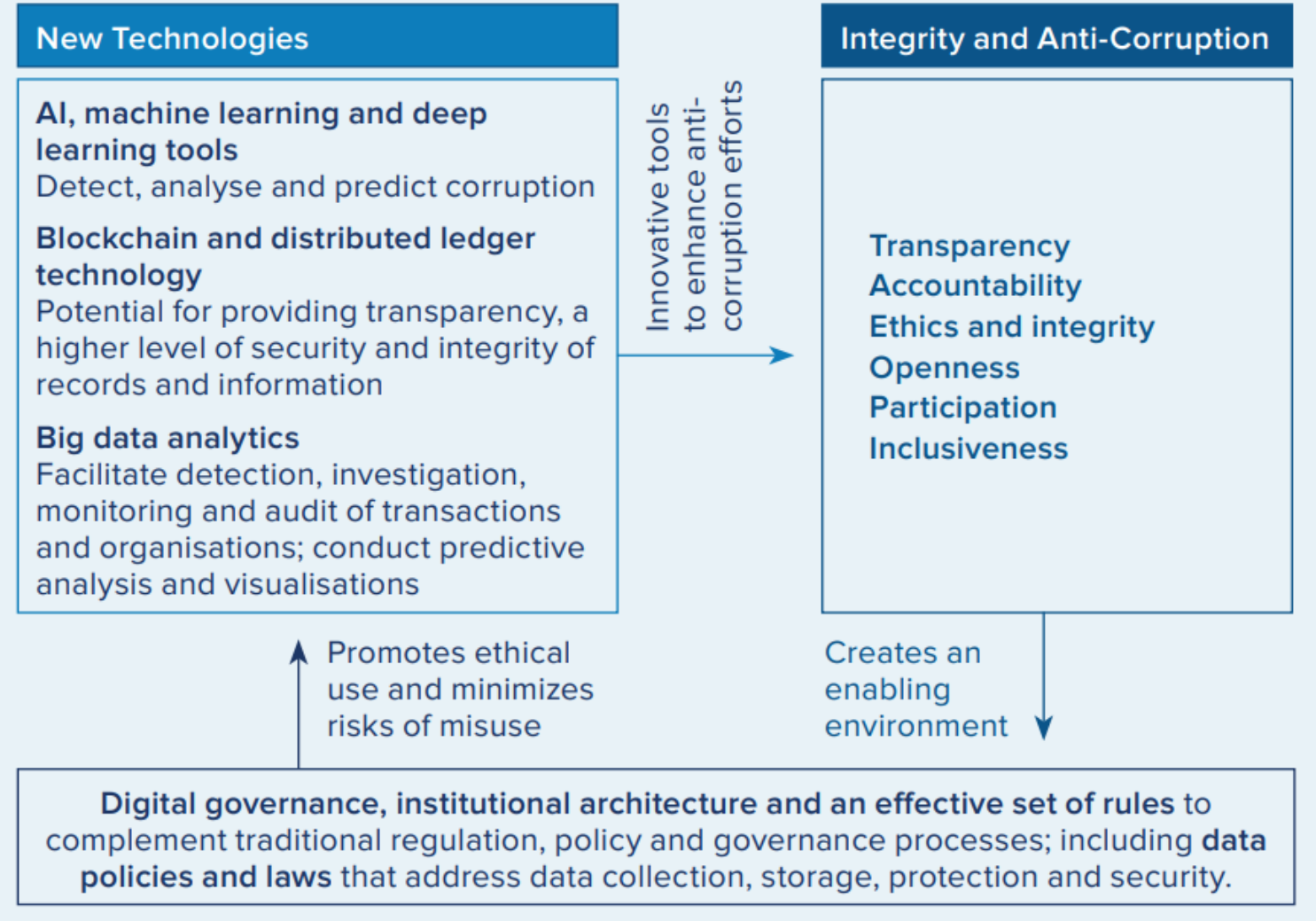
UNDP report on new technologies for SDGs, anti-corruption and integrity



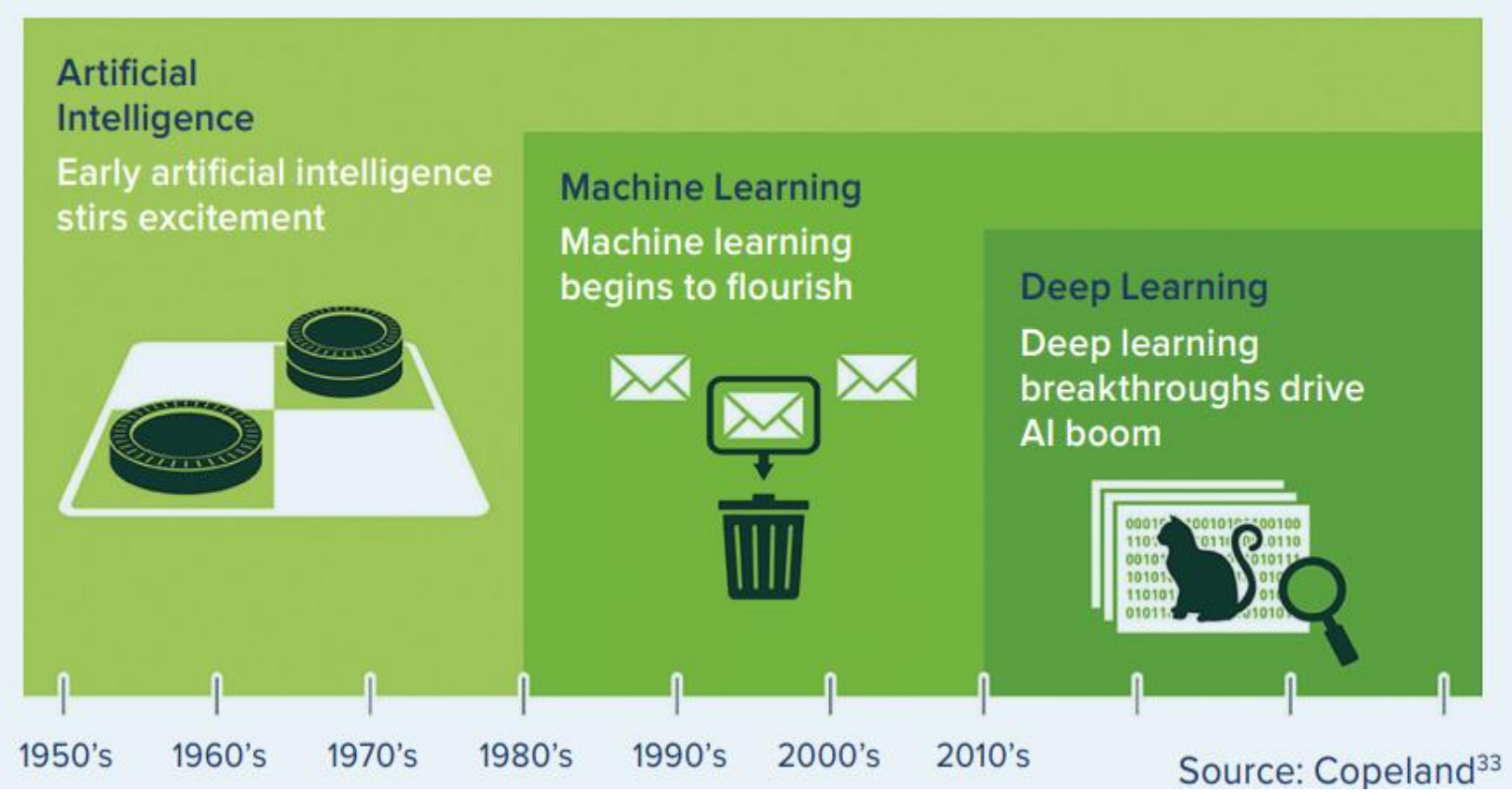
Overview

- Introduction to UNDP Study
- Artificial Intelligence
- Blockchain
- Big Data

Linkages between new technologies and integrity and anti-corruption



Artificial Intelligence (AI)



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AI, Machine Learning, and Deep Learning

Risks in the use of AI

- Without clear governance mechanisms or regulation to guide the use of AI and machine learning tools, AI may be vulnerable to the few who design the processes.
- The outcomes generated by AI and their usefulness depend on the design of the algorithms and the data used.
- The complexity of “black box” algorithms makes it impossible to tell exactly how the calculation resulting in a given output is performed, which can lead to lack of trust.

Reaping the benefits of AI

The transformative power of AI technology must be combined with responsible and ethical human efforts to realize the potential AI technology brings.

- Humans must steer AI systems when designing and developing them.
- Investments in good quality data are crucial.
- Efforts must be made to establish trust, T&A
- Business models based on AI need a centralized body to protect rights and ensure safety and security.

Blockchain

Blockchain is a type of distributed ledger technology (DLT) in which information is stored in ‘blocks’ in a digital ledger which can be used for integrity and anti-corruption.

- Creates a transparent and accountable system where information can be verified.
- Ensures a complete and public record of alterations, as transactions and documents stored on the blockchain cannot be compromised (if the integrity of the system is not compromised).
- Tracks the precise movement of money more accurately (e.g. supply chain).

Blockchain for integrity and anti-corruption - examples

- In India, UNDP supported a project to build a **land registry** using blockchain technology for the city of Panchkula.
- In Georgia, the National Agency of Public Registry (NAPR), implemented a Blockchain **land-titling** project.
- In Malta, blockchain technology has been used to issue academic credentials and verify workers' skills and **credentials**.
- World Food Programme (WFP) used blockchain technology to for direct cash transfers to **refugees** to reduce corruption risks
- To overcome illegal and corrupt activities in fisheries, blockchain has been used track **tuna fish**. It can the journey of a single fish, recording information from when and where it was caught, how it was processed, to its sale to consumers.

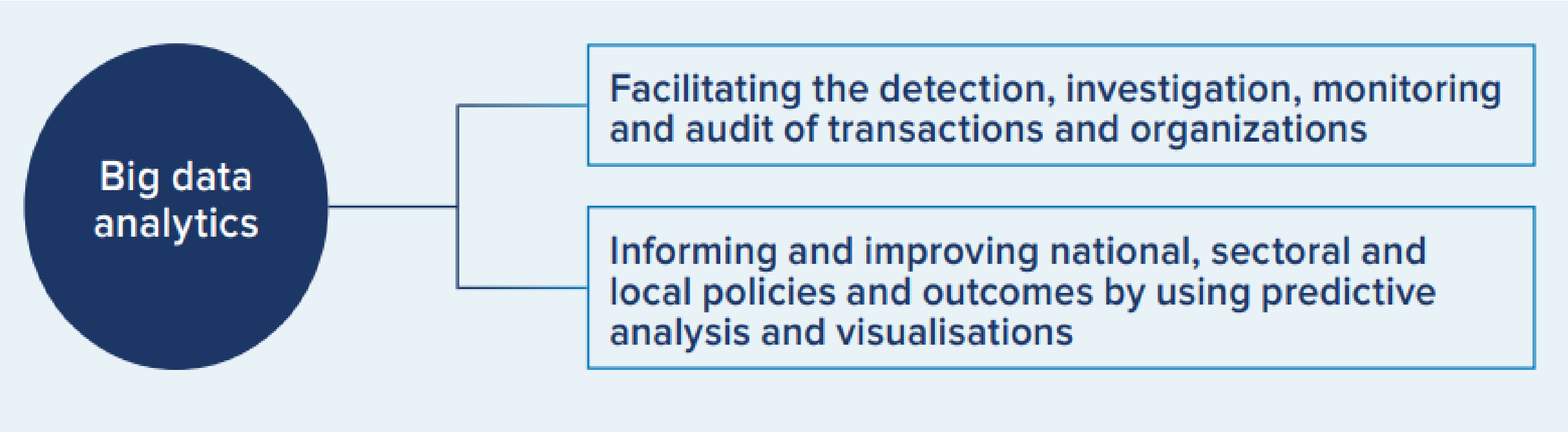
Effectiveness of blockchain

- An appropriate legal and regulatory framework is required.
- Blockchain is more successful with strong institutions and infrastructure, such as the land registries in Georgia, where land is already documented and property registration processes are relatively streamlined and digitally enabled. Moreover, the use of blockchain in Georgia is driven by its tax benefits.
- Effectiveness of blockchain technologies for integrity and anti-corruption still depend on the wider political economy context, in addition to the digital infrastructure, which power the blockchain.

Big data

- Big data refers to extremely large and complex data sets that may be analysed computationally to reveal patterns, trends and associations that cannot be dealt with by traditional data processing software.
- Using traditional data processing software, it is difficult to expose corruption due to the need to analyse large quantities and varieties of data.
- However, the rise of big data has led to new data management and data mining techniques to prevent fraud and abuse in the public sector.

Big data analytics in anti-corruption



Big data analytics for anti-corruption

Big data analytics transform how government entities provide public services, evaluate performance and strengthen oversight and accountability.

- In public procurement, data mining is being used for audits to monitor bid issuance and to identify red flags, patterns of collusion and false information. It is also being used to identify ‘corrupt intent’ in payments or transactions through data visualization.
- In the largest state of India, data-focused initiatives on e-governance and data analytics have led to widespread transparency and improved public service delivery:
  - Chief Minister’s dashboard which integrates information from various sources (including real time information) to promote evidence-based decision-making,
  - Chief Minister’s Helpline, a unified gateway to register grievances related to all aspects of government functioning).

Risks and way forward

- Issues of data privacy, information misuse, cybersecurity threats and fraud pose huge risks in big data and data analytics.
- Identifying and understanding the corruption risks in the processing of big data, from state capture to regulatory abuse, is necessary to mitigate the potential misuse and abuse that can occur in each of the areas.
- Big data analytics requires necessary analytical capabilities and skills.

Conclusion

Digital infrastructure and effective digital governance, which promote accountability, ethics and integrity, are necessary to create a sustainable impact in this policy space, build trust and maximize the benefits for all, as we progress towards 2030.

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