GIFT
GLOBAL INITIATIVE FOR FISCAL TRANSPARENCY

Use of Artificial Intelligence for Budget Openness and Connections with the Policy Priorities

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Today’s journey

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2. AI + PFM: initial considerations
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1. Concepts

Generative vs predictive

“Generative AI strives to produce content that hinges on as deep an "understanding" of humanlike concepts as we can squeeze out of a machine. In contrast, predictive AI strives to predict the inherently unpredictable—outcomes such as human behavior: who will click, buy, lie or die.” Forbes

- Generative AI, leveraging sophisticated modeling techniques, introduces a creative dimension to AI applications by generating images, text, videos, and software code in response to user prompts, addressing complex business and logistical challenges through advanced artificial intelligence algorithms.
- In contrast, Predictive AI employs vast datasets to identify patterns over time, offering inferences and forecasting future trends and outcomes, utilizing its capability to analyze historical data to provide solutions for intricate challenges in business and logistics.

1. Concepts

Understanding AI: simulating human intelligence processes by machines, especially computer systems. These processes include learning, reasoning, and self-correction.

- **GPT** Generative Pre-trained Transformers.
- **LLM** Large Language Model: advanced machine learning algorithms proficient in interpreting inquiries or commands and producing responses in human-like language. These models function by processing extensive datasets during their training phase, allowing them to identify statistical correlations, such as how words relate to each other and the contextual importance of words within sentences.
- **RAG** Retrieval-Augmented Generation: is the process of optimizing the output of a large language model, so it references an authoritative knowledge base outside of its training data sources before generating a response.
- **NLP** Natural Language Processing: in short- voice to text.

2. AI + PFM: initial considerations

- **Icreased accountability:** Utilizing AI to detect anomalies and prevent fraud, leads to more accountable and clean spending.

- **Exising global frameworks provide useful guidance:**
  - The OECD Principles on Artificial Intelligence
  - European Parliament's AI Act
  - AI Accountability Framework of the US Government Accountability Office
  - Brazil's Internet Act
  - Netherlands' Generative AI Strategy
  - GIFT's principles ¿?

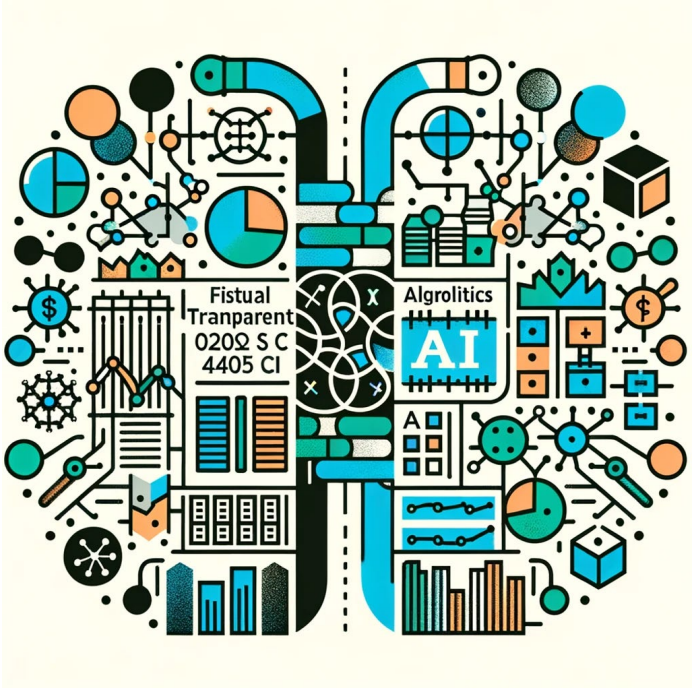
- **Enhanced decision making for development results:** by making repetitive process redundan, automating review and increasing analytical power, AI could enhance accuracy and availability of budget data, resulting in more reliable and actionable information for better decision making in PFM.

3. Synergies when implementing AI and Fiscal Transparency

- High level political endorsement
- Need impact oriented strategy with clear and measurable objectives
- Technology forward advancements = technological and language divide as key challenge for implementation
- Capacity building is key (and you need to start massively and NOW)
- People can see regard as an enemy
- Heavily reliant on monitoring and evaluation
- Legal frameworks and principles are a MUST to avoid affecting those traditionally excluded

Key difference: AI is happening with or without you.

3. Synergies when implementing AI and Fiscal Transparency



AI and FT share a pathway: processes needed for advanced FT are the same needed to stay on curve with the AI revolution.

- High level strategy with measurable objectives might not be as clear
- Catching up on skills and language divide becomes more urgent
- Process documentation and data organization are urgently required, inmediately
- Monitoring and evaluation becomes the “make it or break it” factor
- **Human accountability** regains central role

4. GIFT's Principles and AI- selected reflections

Principle 1 (PP)- Accesibility

User friendliness

Accelerate fiscal information oppeness through user-friendly interfaces, infographics, educational videos, chatbot. Design, **iteration** and publication rates are simplified or automated.
AI can also assess **relevance** for specific audiences.

Comprehensiveness

Cleaning, organizing, integrating and analyzing information from multiple disparate sources and assist in standardization.

Timeliness

The agility of AI in processing and disseminating rutinary information promotes that updates are faster, allowing for more immediate public access.

4. GIFT's Principles and AI- selected reflections

Principle 3 (FT) Quality, Reliable Information and 5 Legal basis for financial transactions

Quality

- AI aids in ensuring the reliability of fiscal data, employing advanced analytics to detect errors and anomalies, thus contributing to the integrity and accuracy of financial reporting.
- Different areas can develop automated checking and monitoring models that suit the adherance to a diverse range of legal frameworks.

Reliability

- Review financial progress indicators agains physicial evidence provided.
- Agility in analysing and leveraging multiple sources of verification: inter or intra agencies as well as non governmental (private sector, academia, NGO's, social media, etc.).

5. AI in PFM in practice

- **IMF:** Improved revenue forecasts, a critical element of fiscal planning.
- **WB:** Scrutinize procurement data.
- **Estonia:** Spending analysis across departments to prevent waste and ensure efficient allocation of resources.
- **Brazil:** Identification of patterns indicative of fraud and informing risk mitigation strategies.
- **Finland, France, Greece and the United Kingdom** are using LLMs to support in drafting documents, analyzing spreadsheets and summarizing texts.

5. AI in PFM in practice

- **Strategic Forecasting:** AI informs budget allocations with predictive analytics to meet policy objectives efficiently.
- **AI's Analytical Edge:** The use of AI algorithms to predict future demands in public services such as education (Finland) and healthcare, ensuring that resources are allocated where they are most needed.
- **Policy priority inference:** Align budgets with policy priority impacts as measured by objective indicators, ensuring that financial resources are directed to areas for maximum impact.

  - PPI links government spending to policy outcomes using AI, aiding global development planning.
  - The web app allows users to simulate these links with real-world data and offers **Python-based advanced analysis tools**.
  - Allows **SDG linkage** through the set of indicators published by the UN.

The Alan Turing Institute

5. AI in PFM in practice

Brazil chatTCU

- The Brazilian Federal Court of Accounts (TCU) launched ChatTCU, an AI tool based on OpenAI's ChatGPT, integrated with TCU systems for internal use. ChatTCU v3, hosted on Microsoft cloud, relies on GPT-4 32k for accurate, secure data handling.
- Over 1,400 users have utilized ChatTCU, leading to more than 17,000 chats and over 50,000 messages between June and November, with an average of 80 new chats and 500 messages daily.
- A Working Group formed in February spearheaded ChatTCU's development, focusing on AI's safe, strategic use through internal discussions and external workshops.
- Future ChatTCU updates aim to expand functionalities, including internet searches, system integrations, and natural language processing for audit guidance.
- TCU has showcased ChatTCU to 80 federal institutions, emphasizing its role in leveraging AI to enhance public administration.

5. AI in PFM in practice

Mexico- AMLOPEDIA

- Amlopedia.org is a searchable repository of Mexican President AMLO's morning briefings.
- Users can search phrases and directly access the video moment they're mentioned.
- The site uses AI for video search, is politically neutral, and free to use, with paid plans for extra features like transcript downloads.
- It's updated daily with new content, but as AI-driven, it may occasionally contain errors.
- Users can report errors via Twitter to the creator, @magiobus.

6. Adopting AI: Building blocks

High level strategy with measurable objectives

- **Strategic AI Alignment:** Adopting AI in public finance goes beyond technical deployment; it requires aligning the digital strategy with the organization's core mission and goals.
- **Defining Roles:** It's essential to delineate roles clearly, establishing who will be responsible for overseeing AI integration within the finance ministry and across governmental departments.
- **Full government approach:** Norway exemplifies this approach, having established a digital strategy that integrates AI while aligning with its public service objectives, enhancing both efficiency and service quality.
- **Comprehensive Planning:** Developing a digital strategy for AI involves comprehensive planning, outlining clear objectives, performance indicators, and defined roles and responsibilities.

6. Adopting AI: Building blocks

- **Navigating Operational Complexities:** Operationalizing AI in public finance comes with its own set of challenges, from integrating new technologies into existing systems to ensuring that staff have the necessary skills to leverage these tools effectively.
- **Addressing Skills Shortages:** A significant barrier to AI adoption is the skills gap; training programs and educational initiatives are crucial for empowering our workforce to utilize AI technologies competently.

6. Adopting AI: Building blocks

Developing Local Language Models: Countries are investing in the development of LLMs that understand and process local languages, such as GPT-NL in the Netherlands and Sweden's GPT-SW3, tailored to their unique linguistic contexts.

- Brazil, AI has been trained on vast datasets, including legislative texts.
- Estonia, Denmark, and Slovenia have taken proactive steps by investing in language technologies.
- Iceland has started a partnership with OpenAI to increase GPT's ability.
- Singapore's ambitious $70 million initiative to develop an LLM that understands languages specific to the Southeast Asia.

6. Adopting AI: Building blocks

- **The Ethical Imperative: a human MUST ALWAYS be clearly accountable.**
- **Data Privacy at the Core:** Respecting the sanctity of data privacy is paramount. AI in PFM must be transparent, with clear protocols that protect sensitive information.
- **Ensuring Equitable Access:** AI's algorithms must be designed to serve equitably, avoiding biases that could skew fiscal policies or outcomes.
- **Monitoring Ethical Boundaries:** In France, AI systems used in fiscal management are rigorously tested against ethical standards (RAG).
- **Transparency becomes paramount.**

TECHNOLOGY

NYC AI Chatbot Touted by Adams Tells Businesses to Break the Law

The Microsoft-powered bot says bosses can take worker's tips and that landlords can discriminate based on source of income. That's not right.

BY COLIN LECHER, THE MARKUP |
MARCH 29, 2024, 6:00 A.M.

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6. Adopting AI: Building blocks

- **Mitigating Algorithmic Bias with TRANSPARENCY:** It's imperative that we use AI models that are transparent and can be audited for bias, ensuring that our financial management practices remain equitable.
- **Oversight of AI Systems through HUMAN ACCOUNTABILITY:** regulatory frameworks and processes with clear responsibility identification.
- **Institutional Readiness:** Building institutional readiness for AI involves developing capabilities not only to deploy AI systems but also to monitor and adapt them in response to new challenges and opportunities.
- **Success in Supervision:** United Kingdom with its AI auditing processes, have seen greater success and public trust in these technologies.
- **Global Efforts:** Internationally, efforts are underway to understand and correct biases in AI, with countries like the United Kingdom leading initiatives to develop AI that is as unbiased and equitable as possible.

6. Adopting AI: Building blocks

Technology, Processes, and AI Implementation

- **Tech with PURPOSE:** Ensure that it serves our strategic objectives and isn't just a pursuit of the latest tech trend.
- **Sustainable Tech Investments:** Each technology investment should be evaluated for its potential return on investment and long-term sustainability within PFM systems.
- **Cybersecurity:** Prioritize robust cybersecurity protocols to protect sensitive data and maintain the integrity of our financial systems.
- **User centered design:** Engage with stakeholders: leadership, management, **day to day operation staff**, and end-users.
- **Evaluate Digital Maturity:** Identify gaps in infrastructure, capabilities, and data governance.
  - Data governance, availability and documentation
  - Are processess (operative, sustantial, technical and technological) documented?
- **Monitoring Implementation:** Ensuring that the integration of AI remains aligned with organizational objectives and can adapt as those objectives evolve.

7. Insights from practice

Building Digital Ecosystems through Partnerships

- **Collaborative Ecosystems:** Expand beyond individual ministries, encompassing partnerships across government, private sector, and academia.
- **Shared Objectives:** Foster a sense of shared ownership and collective achievement.
- An example of this in action is the collaboration between government bodies and technology firms in South Korea, where partnerships have been instrumental in developing AI solutions tailored to the needs of the public sector.

7. Insights from practice: Innovation Labs and Their Role

- **Centers of AI Excellence:** Innovation labs have emerged as vital centers for AI development, offering a space where new ideas can be tested, refined, and implemented.
- **Cross-Departmental Collaboration:** These labs facilitate cross-departmental collaboration, bringing together experts from diverse fields to pioneer holistic AI solutions for complex challenges (Brazil and Norway).
- **Replicable Models:** Pilot fails as do success stories offer replicable models for other try or other countries looking to establish similar environments.
- **The Lab Advantage:** The advantage of innovation labs lies in their ability to rapidly adapt to new technologies and methodologies, ensuring that public financial management remains at the cutting edge of innovation.

8. Food for thought: AI's Impact on Revenue Mobilization, Public Sector Efforts and Public Participation

- Transforming revenue mobilization and taxation
- Deeper inequalities
- Challenges for government responsiveness
- Democratizing Decision-Making
- Enabling Deeper Engagement

9. For the road: insights

- **AI as a Strategic Enabler:** Recognize AI as more than a tool.
- **Balance Innovation with Prudence:** Each technological step forward is taken with consideration for its broader implications.
- **Engage in Continuous Dialogue:** Maintain an ongoing dialogue with stakeholders, including the public, to ensure AI applications meet their needs and retain their trust.
- **Monitor and Evaluate:** Assess the performance and impact of AI systems. Adjust to align with policy outcomes.
- **Prepare for a Digital Future:** The future is digital, and readiness for this future requires a proactive approach.

9. For the road: actionables

- **Embrace AI with Clear Objectives:** Identify specific goals within your fiscal management processes where AI can have the most impact. Begin with clear, measurable objectives.
- **Invest in Ethical AI Frameworks:** Develop and implement an ethical AI framework to guide all AI initiatives. Include traditionally excluded groups early.
- **Start capacity building and process documentation NOW!**
- **Start open data and pilot testing NOW!**
- **Prioritize Data Governance:** Establish robust data governance policies that ensure the quality, privacy, and security of the fiscal data used by AI systems.
- **Build Strategic Partnerships:** Seek out partnerships with technology providers, academia, and other government bodies to leverage shared knowledge and resources in AI adoption.

THANK YOU!

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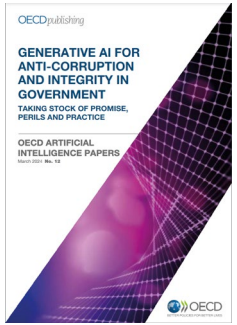

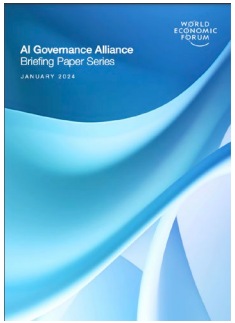

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