Topic: T15 / SCIENCE AND TECHNOLOGY POLICY

Chair: Hasnain Bokhari (Willy Brandt School of Public Policy - University of Erfurt)

GENERAL OBJECTIVES, RESEARCH QUESTIONS AND SCIENTIFIC RELEVANCE

The exceptional growth and rapid development of artificial intelligence technologies (AITs) is transforming governance landscapes globally, with nations increasingly adopting AI for both public and private sectors. From digital imaging to public health and from cybersecurity to education, AITs are reshaping processes and national governments are continually pursuing AI strategies to assert technological leadership. In parallel, multilateral bodies like the United Nations, European Commission, and World Bank are working to establish global AI standards, trying to promote the safe and inclusive development and equitable access to AITs.

Nevertheless, despite these efforts, implementing Al-driven policies raises complex challenges and policy implementation poses profound challenges in addressing political, legal, ethical, and socio-economic issues across diverse contexts. Central to these challenges is also data, which sits at the core of every Al technology. Accuracy, timeliness, completeness, and consistency are some of the data-quality related concerns that can significantly impact Al outcomes. With surge in generative Al, there is a continuous fear and issue of accuracy, bias, and discrimination inherent in LLMs. Similarly, in many countries of the Global South, the adoption and regulation of Al are marked by distinct socio-political and economic challenges that differ substantially from those of the Global North. Limited access to technological infrastructure, a shortage of specialized skills, and scarce financial resources often hinder Al development. The absence of comprehensive national Al policies can leave these countries vulnerable to unregulated technology imports, raising concerns about data sovereignty and privacy.

This panel aims to critically examine the policy frameworks that guide Al's integration into public sectors, exploring how Al is shaping governance structures and impacting public trust, transparency, and accountability. The goal of this panel is to create a comprehensive dialogue on Al's role in public policy, aiming to identify pathways for balanced and inclusive Al governance.

The panel aims to address several research questions, including:

- How can policy and technology circuit collaborate to [co]create regulatory frameworks that ensure safe, effective, and fair AI implementation?
- How can countries in the Global South develop AI policies that address their unique socio-political contexts, and what role can global standards play in supporting this?
- In what ways or can public sector AI initiatives from the Global North serve as reference points for countries in the Global South, and how can policy frameworks adapt to the unique socio-political contexts of these regions?
- What governance structures and regulatory approaches are most effective in building public trust in AI technologies, especially within contexts where AI-driven decisions impact citizen welfare and rights?
- What policy measures can mitigate the potential job displacement caused by automation, and how can governments ensure that workforce transitions are equitable?
- How can collaboration between policymakers, technologists, and civil society increase an ethical Al framework that balances innovation with societal values and norms?
- How can national and global data governance frameworks improve data quality dimensions such as accuracy, timeliness, and consistency?

CALL FOR PAPERS

This panel seeks to address critical questions surrounding the integration of artificial intelligence

technologies (AITs) into public policy frameworks and governance structures. Some of the questions that this panel wishes to address include: how are governments navigating the ethical, legal, and socio-economic challenges posed by AI? In what ways can policy frameworks be refined to support public trust, transparency, and accountability in AI-driven decision-making? Additionally, what distinct challenges do countries in the Global South face as they adopt and regulate AITs, particularly in balancing technological advancement with data sovereignty and resource limitations?

Papers are invited that explore these questions through diverse theoretical, methodological, or empirical lenses, with particular interest in policy approaches that address the nuanced challenges of AI implementation across varied governance contexts.

Topics of interest include, but are not limited to:

- National AI Strategy Development
- Al in Public Administration
- Data Governance and Sovereignty in Al
- Al for Inclusive Development
- Public Trust and Al Governance
- Al and Workforce Development
- Comparative Analysis of Al Policy Frameworks
- Digital Inequality and Al Access

Submissions are welcome from scholars and practitioners across disciplines that contribute to a comprehensive understanding of Al's role in public policy and governance. Accepted papers will have the opportunity to create a comprehensive dialogue on Al's role in public policy, aiming to identify pathways for balanced and inclusive Al governance.

Chair: Hasnain Bokhari (Willy Brandt School of Public Policy - University of Erfurt)

Session 1

Wednesday, July 2nd 13:45 to 15:45 (D6)

Bringing power and politics in Artificial Intelligence governance

Inga Ulnicane (University of Cambridge)

The rise of Artificial Intelligence (AI) has been accompanied by proliferation of various frameworks, roadmaps and guidelines on how to govern AI to increase its benefits and mitigate risks (Ulnicane et al 2021). These frameworks for good, ethical and responsible AI governance have outlined a range of principles, tools and mechanisms to ensure fairness, accountability and inclusion. However, despite numerous ideas and guidance for good AI governance, in reality there are plenty of problematic practices of AI governance, such as ethics washing, regulatory capture, technological fixes and solutionism. How to explain this puzzle that while there is a lot of well-intended advice and careful thinking going into good governance frameworks and roadmaps, AI governance still often suffers from shortcomings, problems and failures.

This paper argues that one limitation of many approaches to AI governance is that they perceive governance as a largely technocratic exercise that just requires more information and knowledge 'to get AI governance right to increase benefits and mitigate harms' (Ulnicane & Erkkilä 2023). Such an approach depicts governance as devoid of politics and ignores political questions: Right governance for whom? What kind of benefits and how will they be distributed? (Ulnicane 2024). This contribution draws on governance studies in political science that understand governance as a deeply political process that involves choices over values in the context of plurality of actors, views and interests (Peters 2012). Against this background, this contribution examines how to develop a more nuanced understanding of AI governance by bringing in issues of power and politics. Building participatory AI governance is particularly challenging due to huge power asymmetries in the field of AI where power is largely concentrated in a small number of big tech companies, while society has relatively little if any power. By analysing various forms of power, diverse roles of government, and democratic choices between different goals of AI, this contribution aims to enrich the AI governance debate with awareness of power and political challenges that needs to be addressed to develop socially beneficial AI.

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(Virtual) Leveraging AI for Social Good: Advocacy Strategies for Civil Society Organizations

Heike Grimm (Willy Brandt School of Public Policy - University of Erfurt)

Artificial Intelligence (AI) is rapidly transforming the operations of civil society organizations (CSOs), presenting both significant opportunities and challenges for the vulnerable communities they serve. Although scholars and professionals have explored this issue, relatively little research has focused on the

advocacy entry points that CSOs can leverage to harness Al positively and productively.

This study examines the multifaceted impact of AI on CSOs and identifies key areas for strategic intervention to maximize AI's potential benefits. Using a mixed-methods approach, we conducted comprehensive literature reviews, case studies, and interviews with CSO leaders and AI experts.

Our findings indicate that AI can exacerbate existing inequalities, particularly through biases in data and algorithms, potentially further marginalizing vulnerable groups. However, AI also presents a valuable opportunity for CSOs to enhance their reach and impact. We identify three major advocacy entry points for CSOs:

- Education: Equipping CSOs and their communities with AI literacy to understand and navigate AI tools effectively.
- Regulation: Advocating for policies that ensure ethical and responsible AI development, safeguarding against biases and protecting human rights.
- Collaboration with Public and Private Sectors: Fostering partnerships to align AI development and implementation with CSOs' core values, ensuring that technology serves the broader social good.

This study concludes that, despite the challenges AI poses, CSOs can strategically leverage these areas of intervention to mitigate risks while using AI as a tool to advance their missions and better serve their communities. Thoughtfully and cautiously embracing AI can enhance CSOs' operational efficiency, advocacy efforts, and service delivery, ultimately contributing to more equitable and effective societal outcomes.

Finally, we emphasize that AI adoption does not have to be a zero-sum game. Continuous collaboration and proactive engagement among CSOs, policymakers, and the tech industry are essential to ensuring that AI technologies are developed and deployed in ways that promote equity and social justice.

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Al Readiness and Adoption: Exploring the Implementation of Al in Pakistan's Digital Landscape

Hasnain Bokhari (Willy Brandt School of Public Policy - University of Erfurt)

The current wave of digitalisation, coupled with the rapid diffusion of Artificial Intelligence Technologies

(AITs), is increasingly changing the way we perceive, use, and benefit from new forms of technology. Particularly in the context of Global South countries, electronic public service delivery channels have undergone significant transformation, with a focus on citizen engagement. Since the rise of generative Al applications, several countries have begun rolling out national Al policies, regional blocks such as the EU have introduced the EU AI Act, and new partnerships have been formed, such as the Global Partnerships on AI (GPAI). Nevertheless, there is a dearth of information about how countries in the Global South are pursuing their AI agenda within national and digitalisation policies. Within the context of the digital divide and limited technological infrastructure, this becomes crucial for understanding the unique challenges such countries may face. Al adoption becomes more contested, as disparities in access and capability can hinder effective implementation and equitable benefits. In this context, this paper explores the conception and implementation of Artificial Intelligence (AI) at the national level in Pakistan, focusing on policymakers' perceptions and the development of a national AI policy. Utilising semi-structured interviews with a diverse range of stakeholders—including ministry officials, technologists, and representatives from civil society and international organisations—this study aims to uncover insights into the current landscape of AI governance. The primary objective of this paper is to identify priority sectors for AI integration, assess existing policy initiatives, and determine the digital competencies required at the ministerial level to effectively spearhead Al initiatives. The proposed findings aim to provide insights into how Pakistan approaches Al policymaking and to highlight the implications for digital public services and inclusion. The findings may also be useful for developing a comparative policy approach that can inform AI strategies in other Global South countries facing similar challenges.

Is AI (governance) Indeed a Wicked Issue?

Slobodan Tomic (University of York)

Is AI a wicked policy issue? This has been a frequently asked question in recent years, which has gained significance as AI has risen as a prominent topic of interest, drawing attention to issues surrounding its governance and regulation. Most accounts in the literature imply that AI is a wicked issue. This suggests that policy solutions for the governance and regulation of AI are more convoluted, unclear, and complex than those for conventional non-wicked issues.

However, we subject the claim that AI is a wicked issue to critical revision. This paper unpacks the definition of wicked issues and contextualises it against AI (governance) governance, suggesting that, overall, AI, contrary to conventional wisdom, does not share the attributes of wicked issues. Thereafter, we develop our discussion in two respects.

The first concerns the causes of the misdiagnosis of AI governance as a wicked issue, linking it to the theory of mistification of the technically complex sectors, where technically complex issues are often conflated with wicked policy issues. The discussion highlights the conceptual differences between the two. Second, we derive the governance and regulatory implications of the assertion that AI governance is not a wicked issue. Rather than focusing on interdependencies of policy measures and tolerating high uncertainty and ever-increasing delay of effective regulatory measres, we suggest that the governance of AI requires making simple choices between various regulatory values (e.g. safety vs innovation; privacy vs competitiveness, etc.), as well as choices regarding the amount of resources that society is willing to invest in order to mitigate or prevent the negative externalities and individual harm that AI products could pose during their development and use.

7

Chair: Hasnain Bokhari (Willy Brandt School of Public Policy - University of Erfurt)

Session 2

Thursday, July 3rd 10:15 to 12:15 (D6)

(Virtual) Taxation and Artificial Intelligence in Mexico: advances and challenges

Diana L. Becerra-Peña (University of Guadalajara)

Patricia Gutiérrez Moreno (University of Guadalajara)

Incorporating artificial intelligence (AI) into Mexico's tax system marks a significant leap forward in the efficiency and accuracy of tax processes. This document explores recent advancements and obstacles in using AI for tax collection and fraud detection. In this research, a descriptive analysis derived from a documentary review is carried out, which explores the integration of AI in tax management for the case of Mexico, to account for the progress that has been achieved at the end of fiscal year 2024 and early 2025, as well as the challenges that such implementation entails. Drawing on the latest literature, it delves into the application of cutting-edge technologies like machine learning and natural language processing and their impacts on automating tax-related tasks. It also examines the ethical and legal considerations of integrating AI and the necessity for public policies that promote its responsible adoption. This paper provides a comprehensive view of how AI has the potential to revolutionize the Mexican tax system, enhancing transparency and efficiency while also addressing the hurdles that need to be addressed for its widespread implementation.

Al in common citizens lives: Views from India

AMRITA DEY (Jawaharlal Nehru University)

Abstract

There is no denying the entry of Artificial Intelligence in our lives--- whether its USA/Europe or Asia--- no one can deny the entry of data science, machine learning, with astronomical speed and accuracy. All aimed to bring viable, sustainable change to lifestyle, education, health and environmental problems in diverse societies of the world.

But the question is whether human society is being duly trained to access this digital revolution? What kind of inequalities will it bring along with it? And what kind of reactions would one expect to deter AI?

The present paper is a small attempt to examine the boons and banes of AI, how people in the Global South views this matter and what implications it holds for this part of the globe.

Good Administration in Al-enhanced Banking Supervision

Alessio Azzutti (University of Glasgow)

Banking supervisors worldwide recognise the pressing need to harness frontier technologies such as artificial intelligence (AI), particularly machine learning (ML), to enhance their efficiency and analytical capabilities. The European Central Bank (ECB) has similarly acknowledged the opportunities offered by supervisory technology (SupTech) and established a dedicated Suptech Hub. However, the adoption of automated technologies in banking supervision raises complex questions of legality, transparency, and accountability, particularly for the ECB, as a public institution within the EU's democratic order founded on the rule of law.

This study investigates how the use of AI systems to augment supervisory decision-making may impact EU fundamental rights, particularly the right to good administration. To this end, we first define the notion of

good administration in the context of banking supervision, and explore what it entails for the ECB from legal and ethical perspectives. We then analyse the potential implications of AI-enhanced banking supervision for good administration and examine how the latter may inform the integration of AI/ML into supervisory processes and procedures.

Drawing inspiration from the proposed EU AI Act, we develop a normative framework for regulating AI systems based on specific risks to good administration associated with different applications. Our framework prioritises transparency, auditability and accountability requirements to ensure that future AI-driven banking supervision is aligned with the principles of good administration. Overall, this study contributes to the growing literature on the legal implications of AI and ML adoption by financial supervisors, underscoring the importance of a balanced approach that upholds fundamental rights while harnessing the benefits of technological progress.

Cushion or catalyst? Automation risk, policy feedback and public attitudes towards AI in Europe

Jing Ning (University of International Business and Economics)

Ziteng Fan (School of Public Policy & Management)

The introduction of artificial intelligence (AI) and its societal implications have become a lively public debate in recent years. While these emerging technologies can increase economic productivity and improve public service, they also have substitution effects in the labor market. Considering that public attitudes towards the introduction of emerging technologies can largely affect policymaking regarding the progress of technological innovation, it is important to understand what factors may shape public acceptance of AI.

While numerous studies have attempted to address this question, current discussions primarily revolve around individual and cultural factors of robot acceptance, few explore the roles of existing macro-institutions or polices in affecting public attitudes toward AI with policy feedback theory. Addressing this gap is important. On the one hand, it is nothing new that "policy shapes politics". Pre-existing policies usually shape citizens' policy preferences in a certain policy field. Citizens' attitude toward AI is thus not without exception. On the other hand, in the field of AI, variations in welfare systems and regulations on labor markets among different countries may lead to diverse public perceptions of the unemployment risks associated with AI. This can shape individuals' varying attitudes towards AI.

This study investigates the formation of public attitudes towards AI in Europe, employing the Eurobarometer and utilizing a multilevel regression model. This article differs from others in the use of single policy, the focus on social and regulatory policies, and modeling heterogenous effects based on labour market hierarchies. We used social expenditure relative to GDP and employment protection legislation to measure macro social and regulatory policies, respectively.

Our findings reveal that individuals facing higher risks of robot-induced unemployment are generally less inclined to accept AI. However, pre-existing welfare generosity and labor market regulation can significantly moderate the relationship between automation risk and public attitudes towards AI through a policy feedback loop. Specifically, there is a self-undermining effect of welfare policy, which means social spending catalyzes robot acceptance except for routine workers. However, there is a self-reinforcing effect of regulatory policy, which decreases robot acceptance more among non-routine workers. It also means employment protection legislation narrow the gap of public attitudes towards AI between routine and non-routine workers.

This study contributes to the literature in three ways. First, we go beyond the limited focus on micro factors in the literature and consider the feedback effects of welfare and regulatory policies that can mitigate automation risk. Second, bringing policy feedback theory into public attitudes towards new technologies allows a better understanding of how macro-institutions interact with external shocks, and then affect public attitudes towards AI. Third, it is crucial to acknowledge that the majority of research concentrates on a single policy and explores how specific public attitudes are connected to this policy. Our study tries to analyze the feedback effects of various policies in cross-domain, which provide valuable implications to policy feedback theory.

Chair: Hasnain Bokhari (Willy Brandt School of Public Policy - University of Erfurt)

Session 3

Friday, July 4th 08:00 to 10:00 (D6)

Artificial Intelligence in Healthcare: potential, risks, and perspectives for Brazil

Rodrigo Brandao de Andrade e Silva (NIC.br)

Artificial Intelligence (AI), through the use of health data from multiple sources — such as electronic health records, image acquisition and storage, genomic profile analyses, and other physiological data — has significant potential to help address challenges in the healthcare sector. These challenges include the continuous rise in costs, the shortage of professionals, and ongoing epidemiological and demographic changes, such as population aging. The use of AI tools is also a promising approach for developing and implementing large-scale public policies, as well as for leveraging and accelerating scientific knowledge production in the sector through research.

However, optimism about this technology requires caution, as the development and application of AI in healthcare are not without risks. These risks include the leakage of sensitive personal patient data, increased opacity in diagnostics, reduced accountability in medical decisions made using AI-based technologies that provide suggestions for diagnostics, treatments, and prognoses, and even the widening of inequalities in access to quality healthcare. Given such significant opportunities and risks, it is worth asking: how can we harness the potential benefits while mitigating the potential harms of this technology?

This article seeks to address this question within the Brazilian context. It draws on two prior studies conducted by the author. The first was a literature review on the opportunities, risks, and challenges discussed in global literature about AI in healthcare. The second involved 28 in-depth interviews with Brazilian representatives from five distinct groups: academia, the public sector, the private sector, healthcare equipment manufacturers, and healthcare professionals at the point of care. These interviews gathered stakeholders' perceptions about the opportunities, risks, and challenges associated with the development and use of AI systems in Brazil's healthcare sector.

In this article, the results of these two prior studies are compared, identifying points of convergence and divergence between the ethical challenges discussed in the literature and the empirical challenges mapped through the interviews. Based on these findings, the article addresses two main topics: (i) how global standards for the development and use of AI in healthcare could help overcome the challenges and risks identified in the 28 interviews; and (ii) how these standards could strengthen ethical concerns regarding AI in healthcare among Brazilian stakeholders.

CONVERGENCE OF AI-POWERED, HUMAN-DECIDED POLICIES IN PROBLEM-CENTERED POLICY ANALYSIS

Ebinezer Florano (University of the Philippines Diliman)

The integration of artificial intelligence (AI) into policy analysis frameworks offers transformative opportunities for addressing complex societal challenges. This article examines the convergence of "AI-powered, human-decided policies" within the problem-centered policy analysis framework articulated by William N. Dunn (1994), which was used in the development of the Policy Analytics 1.0 software developed by the authors. By aligning the capabilities with Dunn's iterative stages, i.e., problem structuring, forecasting, recommendation, and monitoring & evaluation, the authors explore how AI augments human decision-making while maintaining accountability and ethical oversight. This synthesis provides a roadmap for leveraging AI in the formulation and assessment of policies that are adaptive, transparent, and impactful. The software can be used by professional policy analysts in government service for effective and efficient policymaking.

Gender-Responsive Al Strategies for Transforming Local Governance in India: Opportunities, Institutional Barriers, and a Roadmap for Strategic Action

Pritish Anand (The Hong Kong University of Science and Technology)

In India, local governance holds particular significance in addressing socio-economic disparities and fostering community development. Artificial intelligence offers significant potential to transform such governance. While India has developed a few AI and data strategies and policies in recent years, the integration of AI into the country's governance remains in its early stages. Further, how such developments account for gender differences in local settings seems underexplored. Through an institutional analysis, the paper explores the potential of gender-responsive AI strategies for enhancing local governance in India. It examines policy-related opportunities, institutional barriers and a possible way forward for the government to integrate gender-responsive AI with public welfare.

The study uses a two-part qualitative approach that first includes a holistic review of existing AI frameworks and policies in India, their gender responsiveness, other comparable gender-responsive AI frameworks and policies from across the world, the cases in which AI strategies are being used to transform governance, and how they integrate gender justice with their governance practices. Second, the study conducts a series of semi-structured interviews with local women, local governance officials, and AI experts to highlight the community needs, key challenges, and opportunities associated with the use of AI in mitigating gender disparities in governance. The key exploration areas include gender disparities in resource allocation, public service delivery, and participatory decision-making. The study enriches the scholarship on fostering inclusive governance through technology and roots itself in the concept of technofeminism introduced by Judy Wajcman (2004) which examined the dynamic interplay of gender, technology, and power.

This study addresses the call for papers by focusing on the potential of AI for inclusive development, examining the intersection of artificial intelligence (AI) and public policy through a gendered lens. By assessing how gender-responsive AI strategies can enhance local governance in India, the paper provides insights into equitable frameworks for AI implementation that can account for the gendered nuances of digital inequality in a prominent Global South economy. The study's exploration of technofeminism in the context of AI and local governance offers a unique perspective on balancing technological advancement with societal values, while contributing actionable insights for fostering transparency, accountability, and trust in AI-driven decision-making.