

---

This is the **published version** of the master thesis:

Mabyeka, Khanyisa Eunice; Valvidares Suarez, Maria Ludivina dir. A feminist analysis of the African Union's data policy framework. 2024. 58 pag. (Màster en Feminismes jurídics)

---

This version is available at <https://ddd.uab.cat/record/307962>

under the terms of the  license





# **TRABAJO FINAL MÁSTER**

## **A FEMINIST ANALYSIS OF THE AFRICAN UNION'S DATA POLICY FRAMEWORK**

**MÁSTER EN FEMINISMOS JURÍDICOS.  
TEORÍAS Y PRÁCTICAS DEL DERECHO  
II Edición. Curso 2022 / 2024**

Khanyisa Eunice Mabyeka

Tutorización: Maria Ludivina Valvidares Suarez

Convocatoria: febrero 2024

**FIRMA DEL CÓDIGO DE BUENAS PRÁCTICAS**  
**MÁSTER EN FEMINISMOS JURIDICOS. TEORIAS Y PRACTICAS DEL DERECHO**

Sra/Sr Khanyisa Eunice Mabyeka  
con DNI/Pas/NIE núm. \_\_\_\_\_ manifiesto que he recibido y soy  
conocedor el **Código de buenas prácticas** de la UAB, y asumo que soy responsable  
de cumplirlo en todo momento como parte indispensable de mi función.

Lugar Berlin, 20 de febrero de 2024

---

Firma estudiante

Mabyeka.

Nombre y apellidos

**Khanyisa Eunice Mabyeka**

Firma tutora/tutor (opcional)

Nombre y apellidos

## ACKNOWLEDGEMENTS

I would like to start by acknowledging my ancestors for my existence and for the knowledges they have held and shared in multiple ways through generations before me, while at the same time adapting and sometimes ‘losing themselves’ for their humanity to be recognised during colonialism in what is today Mozambique.

I specially thank my late grandmother Marcelina, for nurturing me with her breastmilk, her wisdom and sense of humour. You bridged so many of our generational differences through storytelling and held me so beautifully when I needed. Thank you.

I extend my gratitude to my daughter Siyanda and my son, Dhambo, for their patience and generosity. Your shiny bright eyes only showed me kindness when I had to cancel and postpone our plans to explore outside together on Sundays. Thank you so much.

My gratitude also goes to my partner Ginho, for all the support and patience during the most stressful moments of writing this dissertation. Thank you for your constancy and love.

Ongoing thanks is extended to my supervisor, Dr. Maria Valvidares Suarez, for the patience, rich advice, and attention to detail. You made things so much easier for me. Thank you.

My gratitude extends to my Gender at Work co-associates with whom I was working while writing this thesis, Aayushi Aggarwal, Eleanor du Plooy, Kékéli Kpognon, Ilana Landsberg-Lewis, Rex Fyles, Marie-Katherine Waller, David Kelleher and Jeremy Holland, who were more than comprehensive when I needed to slow my work down or simply step away. Your generosity and understanding made me feel hugely supported and held. Thank you.

## Table of content

<b>ABSTRACT</b> .....	1
<b>RESUMEN</b> .....	1
<b>LIST OF ACRONYMS</b> .....	2
<b>1. Introduction</b> .....	3
<b>1.1 Methodology</b> .....	5
<b>1.2. Structure of the thesis</b> .....	6
<b>2. Conceptual framework</b> .....	6
<b>2.1 Digital citizenship</b> .....	6
<b>2.2 Artificial Intelligence</b> .....	8
<b>2.1 AI and reproduction of unequal structures of power</b> .....	10
<b>2.2 Fairness and ethics in AI development</b> .....	12
<b>3. Analytical framework</b> .....	13
<b>3.1 Feminist critical policy analysis</b> .....	14
<b>3.1.1 “What’s the problem represented to be?”</b> .....	14
<b>3.1.2 Intersectional feminist framework for policy analysis</b> .....	16
<b>3.2 Decolonial feminism</b> .....	19
<b>4. Analysis</b> .....	21
<b>4.1 Contextualization</b> .....	21
<b>4.1.1 Digitalization in Africa</b> .....	22
<b>4.1.2 African Union’s Digitalization policies and initiatives</b> .....	24
<b>4.1.3 The African Union Data Policy Framework</b> .....	25
<b>4.2 Critical analysis</b> .....	31
<b>4.2.1 What is the problem represented to be?</b> .....	31
<b>4.2.2 Disembodied data</b> .....	35
<b>4.2.3 Potentially colonial-by-design.</b> .....	37
<b>5. Conclusion</b> .....	40
<b>References</b> .....	43
<b>Appendix A</b> .....	48
<b>Definitions of the six phases of the AI cycle</b> .....	48
<b>Appendix B</b> .....	49
<b>Intersectional/ Feminist Policy Analysis Frameworks</b> .....	49

## **ABSTRACT**

The world is rapidly digitalizing and the hopes of employing technological solutions to solve social, economic, and political challenges are high. The African continent is perceived as lagging in the digitalization process as well as in adopting relevant regulation. The African Union has approved a Data Policy Framework (Framework) to support the continent's efforts to regulate the digital economy. While the Framework identifies key issues regarding data protection, privacy, data ownership, consideration for local context and risks related to reproduction of historical structures of oppression, this thesis proposes that they are not enough to develop a digital economy that does not reproduce historical structures of oppression. By using a critical feminist analysis, I argue that the framing of the problem the Framework attempts to address, resonating with a 'catching up' narrative to benefit from the digital economy, prevent it from addressing data protection with a holistic approach to the data ecosystem. I also identify issues I consider silences in the Framework that if ignored will keep the most marginalised and women in particular on the margins of the digital economy. These issues include disembodied data, exploitation of the natural resources used to build devices that function on data, the exploitation of labour in the digital sector and the negative effects of the data economy on climate change. I finalise by suggesting a review of the Framework that adopts a holistic approach to data to create a new framework for defining, valuing, managing, sharing, owning, and distributing the raw material that is powering the digital economy.

**Key words:** Critical feminist policy analysis, disembodied data, digital data ecosystem, artificial intelligence, African Union, data policy framework, social justice

## **RESUMEN**

El mundo se está digitalizando rápidamente y las esperanzas de emplear soluciones tecnológicas para resolver desafíos sociales, económicos y políticos son grandes. Se percibe que el continente africano está rezagado en el proceso de digitalización, así como en la adopción de las regulaciones pertinentes. La Unión Africana ha aprobado un Marco de Política de Datos (MPD), para apoyar los esfuerzos del continente en regular la economía digital. Si bien dicho el MPD identifica cuestiones clave relativas a la protección de datos, la privacidad, la propiedad de los datos, la consideración del contexto local y los riesgos relacionados con la reproducción de estructuras históricas de opresión, esta tesis propone que no son suficientes para desarrollar una economía digital que no reproduzca estructuras históricas de opresión. Tras realizar un análisis feminista, sostengo que el encuadre del problema que el MPD intenta abordar, resuena a una narrativa de "ponerse al día" para beneficiarse de la economía digital, que le impide abordar la protección de datos con un enfoque holístico del ecosistema de datos. También identifiqué cuestiones, que considero silencios dentro del MPD que, si se ignoran, mantendrán a las personas más marginadas y a las mujeres en particular al margen de la economía digital. Estos problemas incluyen datos 'incorpóreos', la explotación de los recursos naturales para construir dispositivos que mantienen el almacenamiento de datos, la explotación de la mano de obra en el sector digital y los efectos negativos de la economía de los datos sobre el cambio climático. Terminó sugiriendo una revisión del MPD que adopte un enfoque holístico de los datos para crear una nueva política de datos que permita definir, valorar, gestionar, compartir, poseer y distribuir la materia prima que impulsa la economía digital.

**Palabras clave:** Análisis crítico feminista de políticas, datos incorpóreos, ecosistema de datos digitales, inteligencia artificial, Unión Africana, marco de política de datos, justicia social

***LIST OF ACRONYMS***

AfCFTA	African Continental Free Trade Area)
AI	Artificial Intelligence
AU	African Union
Covid-19	Coronavirus disease 2019, a contagious disease caused by the virus SARS-CoV-2.
ETF	European Training Foundation
EU	European Union
FCPA	Feminist Critical Policy Analysis
FPFA	Feminist Policy Analysis Framework
GBV	Gender-based Violence
HIV	Human Immunodeficiency Virus
ICT	Information and Communication Technology
ITU	International Telecommunication Union
ID	Identification Document
IMF	International Monetary Fund
OAU	Organization of African Unity
PAPPS	Pan-African Payment and Settlement System
STEM	Science, Technology, Engineering and Math
UN	United Nations
WB	World Bank
WPR	What' the Problem Represented to be
4IR	Fourth Industrial Revolution

## 1. Introduction

The world is rapidly digitalizing, a change that is neither good nor bad, however, with major effects in people's lives, in the way societies interact and in power relations, worth reflecting on. The last twenty years have witnessed a boom in technological development and in the ways in which Artificial Intelligence (AI) influences the way citizenship is exercised. Citizenship is increasingly being exercised in the digital sphere in many parts of the world and for some citizens. Public services, economic interactions, political participation, or activism are increasingly being accessed and exercised through digital spaces.

AI is used to make critical decisions impacting people's lives, such as access to bank credit, medical diagnosis, job applications or pest prediction. It is also used in daily activities such as searching for information; recommendation of services, products and activities; translating information or words from another language; identification of people or objects; measuring the temperature or energy consumption of a place; getting directions to reach a destination, etc. (Castilla, 2022).

In the African continent, there are documented benefits of AI in areas such as the diagnosis of early stages of disease in the cassava plant (Birhane, 2020) thus contributing to food production and consumption, the use of drones to transport medicines in rural areas in Ruanda, to spray larvicide in wetlands to combat malaria, or to transport vaccines and blood to isolated locations (Omnia Health Magazine, 2023), or for delivering and transporting commodities and other logistics from urban to remote areas, particularly in response to the poor condition of most of Africa's road and rail infrastructure (African Union Development Agency – AUDA-NEPAD, 2023).

AI is one of the technologies that have been coined as the fourth industrial revolution, described by the World economic forum as follows:

*The Fourth Industrial Revolution represents a fundamental change in the way we live, work, and relate to one another. It is a new chapter in human development, enabled by extraordinary technology advances commensurate with those of the first, second and third industrial revolutions. These advances are merging the physical, digital and biological worlds in ways that create both huge promise and potential peril. The speed, breadth and depth of this revolution is forcing us to rethink how countries develop, how organizations create value and even what it means to be human (World Economic Forum, 2010, as cited in IDRC-Africa, 2021, p.16).*

Eight emerging technologies are linked to the fourth industrial revolution (4IR), referred to as disruptive because of their potential to redefine approaches and processes in the industries where they are applied. The eight emerging technologies are AI, Internet of Things, augmented reality, robotics, blockchain, virtual reality, drones, and 3-D printing (IDRC-Africa, 2021).

However, not everyone is positioned to benefit from the fourth industrial revolution. As Gibson (2019, as cited in IDRC-Africa, 2021, p.17) points out,

*There is little doubt that the inevitable rise of the advanced technologies of artificial intelligence, blockchain and drones will disrupt economies and societies. But when this happens, the degree to which it will happen will be highly uneven. Like other industrial revolutions, this one will be characterized by evolution as much as by disruption. Unless something dramatically different is done, one of the continuities will be the perpetuation of inequality.*



In most cases, AI requires the Internet to function, and, according to data from 2021, only 63% of the world has access to the Internet (International Telecommunication Union, statistics, as cited in Castilla, 2022, p.5). Focusing on the sub-Saharan region of Africa, only 39.3% of the population has access to the Internet, with striking variations between countries, from 87.2% in Kenya, for instance to 9.7% of the population in Burundi (Internet World Stats, 2022, as cited in IDRC-Africa, 2021, p.17). Besides access to the internet, its cost is sometimes prohibitive, which contributes to excluding a large part of the African population from AI. Other challenges related to Africa's capacity to benefit from this technological development are the continent's low level of statistical capacity, which limits access to data, a key ingredient of AI and, "a missing knowledge base for AI adoption due to insufficient education and training" (IDRC-Africa, 2021, p.17).

Despite these challenges, there is a widespread belief that the "current industrial revolution presents an opportunity for Africa to make its way to the forefront of the world economy" or that "AI in particular, provide the opportunity to leapfrog legacy systems and roll out entirely new technological systems" by creating efficient AI systems supporting innovation through "collaboration, successful governance, investment, infrastructure and skills" (IDRC-Africa, 2021, p.18). The African Union (AU) through the Digital Transformation Strategy for Africa (2020 – 2030) also expresses high hopes on the opportunities of this "digital era" for the African continent. The strategy states that:

*Digital Transformation is a driving force for innovative, inclusive, and sustainable growth. Innovations and digitalization are stimulating job creation and contributing to addressing poverty, reducing inequality, facilitating the delivery of goods and services, and contributing to the achievement of Agenda 2063 and the Sustainable Development Goals (p. 1).*

Various African governments have also embarked on this journey and have approved national plans to promote or accelerate the digitalization of their societies. These include initiatives such as 'Digital Senegal 2025', 'Smart Rwanda Master Plan', 'Kenya Digital Economy Blueprint', 'Digital Egypt', Digital Mauritius 2030 Strategic Plan, etc.).

However, as many have pointed out, "technology by no means is neutral. It reflects the ideals of its funders" (Nibo, 2020). therefore, it reproduces a set of values and priorities valid to those developing it. A digitalization of our citizenship, independently of the speed it takes, has a high potential of reproducing the historical and structural systems of oppression and discrimination existing in the places where the technologies are being developed. Additionally, the lack of diversity of backgrounds and lived experiences in most of the teams developing these technologies results in systems that reflect biased views of the world and lived experiences and ultimately exclude and exacerbate discrimination and injustice. This lack of diversity is manifested both in the data used to build AI systems and in how the systems operate.

There are multiple examples of how biased AI reproduces stereotypes and discrimination; for example, a surveillance software created in South Africa, Vumacam software, reproduced apartheid era biased view of the criminal as a black male (Birhane, 2020). Or Facial recognition systems that rate terribly low in identifying the faces of women and particularly of darker-skinned women (Buolamwini & Gebru, 2018). And how facial recognition technologies also affect transgender people (Silva and Varon, 2021, as cited in Varon & Peña, n.d.).

Additionally, the growing transition towards digitalization of public services, which in many cases implies using algorithms to make government decisions about who benefits from



what is creating other tensions, concerns and injustices, such as surveillance of some groups, particularly the poor, who in many contexts tend to be women.

It is in this context that many policy frameworks are being developed in the African continent and worldwide to guide the process of digitalization. I will be looking at one policy guiding one element of the digitalization process, which is the African Union Data Policy Framework (AU-DPF), as mentioned earlier, data is one of the key ingredients driving AI. Through this thesis, I will attempt to answer the following questions:

Research question 1: What are the implications of the AU-DPF on gender inequality in all its intersectionalities?

Research question 2: Does the AU-DPF, at least in its narrative, benefit the most marginalized in Africa?

## 1.1 Methodology

To explore the research questions, I use a qualitative research approach, particularly through a document and narrative review. Secondary data was used, and the data sources took the form of policy artifacts, namely, policy documents and websites that shed light on the narratives of the AU-DPF, project and initiative reports, articles and essays and African Union publications. A review of documentation provided contextual richness and background information that helped me understand the political, and economic context in which the AU-DPF was conceived, the digitalization trajectory and current reality in Africa, as well as to understand the relationship between AI and biased social structures and dynamics.

The documentary data served to ground the thesis in the context of digitalization or the digital economy in relation to, or perhaps as an enabler of Africa's socio-economic development and related issues, namely digital citizenship, and gender equality. Additionally, general themes were identified and grouped to identify enablers of gender equality or inequality in the policy framework.

I began examining African Union's long-term development plans, to understand the development of the digital economy discourse, as a way to understand the data policy choices in the AU-DPF. Subsequently, examining literature highlighting the benefits of AI and those focusing on the risks of AI, also allowed me to understand the policy narrative regarding who and what needs data protection. I then engaged in a fluid process of analysis and interpretation, whereby I constantly collected data, made sense of said data, and then revisited the analysis of data in light of new findings.

I chose to focus on a policy framework at the regional level, because of its influence, as a collective body, in the types of policies individual countries might adopt. And also, because it is an institution with the power to set the trends and priorities, although member states ultimately need to domesticate the high-level policies adopted by the African Union.

A limitation of this research is that because the AU-DPF is recent, it was approved in 2022, there isn't yet much current literature nor empirical evidence linked to the research questions or the impacts of the policy framework as a whole. As an ex-ante analysis, I focus on the potential of the AU-DPF to enable or limit gender equality, but not on the results of the policy framework on people's lives.

## 1.2. Structure of the thesis

This thesis is organized in five chapters. The current chapter briefly introduces the context that influenced my interest in the issues raised by the study. Chapter two offers the theoretical background of digital citizenship and AI, with a particular emphasis on data and algorithms as the drivers of AI and how they are linked to the reproduction of biases. Chapter three develops the analytical framework used to examine the AU-DPF. This was mainly centred on feminist critical policy analysis approaches in combination with feminist decolonial thinking to offer a deeper look at the implications for those identifying themselves as women and their intersectionalities, as well as for gender equality, in the context of coloniality. Chapter four analyses the AU-DPF to answer the research questions and explores the broad implications of the framework on gender equality. And finally, I end with some general conclusions.

## 2. Conceptual framework

### 2.1 Digital citizenship

The rapidly and widely growing reach of digital technologies into all aspects of personal, political, social and economic life is redefining what it means to participate in society. The term digital citizenship comes from the concept of citizen, which, according to Schou (2018), is a contested concept due to the diversity of elements that can be considered in its definition. Or even due to the absence of a definition; for instance, many national constitutions offer clear definitions of nationals but not of citizens.

Citizenship has been framed as a “bundle of rights and duties related to an individual as a member of a political community” (Turner, 1993, p. x), such as a nation-state. However, this view of citizenship does not account for those who, for various reasons find themselves in the periphery of the political community. For example, communities and individuals who lack the legal documents to participate in political institutions such as political parties or political processes such as elections (e.g. irregular immigrants and undocumented nationals), individuals who do not speak the official language of the country or region they live or that are affected by time poverty due to extensive non-remunerated care responsibilities. Vromen (2017) has been one of the critiques of this concept of citizenship, arguing that it has a narrow approach to identity, participation, and expression, suggesting the adoption of a view of citizenship that considers democratic participation to be equally about electoral processes as well social action, choice and consumption.

With a view of technological innovation as a positive and neutral thing, the initial discussions about digital citizenship were informed by a concern with the *digital divide* and the question about who was included and who was excluded from the technological transformation (Pangrazio & Sefton-Green, 2021). Although the digital divide persists, for example in the global South<sup>1</sup>, where, according to Statista (2024), only 43% of the population has access to the internet, globally, the existing digital divide is determined by gender, region of residence, and other factors. Therefore, the focus on access to technology was later considered too narrow (Warschauer, 2003) to understand the digital divide. Other factors also contribute to the digital divide, such as motivation (Jaeger, 2005, cited in Pangrazio &

---

<sup>1</sup> The concept of global South is here used to refer to countries and regions that have gone through a colonial experience and are negatively affected by the unequal power relations that have resulted from that experience. The concept of global North is used to refer to the most industrialized countries, who determine global economic and political norms to protect their interest.

Sefton-Green 2021) and “technical skills and educational competencies to assess digital information” (Dijk, 2005, cited in Pangrazio & Sefton-Green, 2021).

Digital citizenship has also been described functionally as the process of being included and operating in a digitalized society. In the words of Mossberger (2008)

*Digital citizenship can be defined as those who use the internet every day, because frequent use requires some regular means of access (usually at home), some technical skill, and the educational competencies to perform tasks such as finding and using information on the web and communicating with others on the internet [...] digital citizenship is an enabling factor for political citizenship* (p. 173-174).

This definition conditions the exercise of the digital citizens’ rights and duties to the citizens’ ability to ensure frequent access to the internet, as well as have the technical skills and educational competencies. However, with the mainstreaming of social media platforms like Facebook and X (former Twitter) becoming a medium for civic participation, the question of access seemed less significant (Pangrazio & Sefton-Green, 2021), at least for non-marginalized communities in the global North.

*For Nyambola (2021), social media platforms are part of the public sphere, they are places where people go to have their opinions heard, and places where:*

*People go to engage with their governments, to engage with public services. [...] especially in countries whereby the social-media companies don’t necessarily see the publics there as natural audiences or as natural extensions of their markets, you actually find people taking on these tools that were designed for something else and applying them into their political lives, into their political realities”* (para.10).

Concerns have been raised about the possibility of citizenship being exercised in platforms owned by corporates, a practice that is becoming normalized; for instance, various government institutions in most countries of the world have a Facebook or X account and use it to share information related to the services they offer. Corporations are motivated by profit and not necessarily the private good, and there is currently no transparency regarding how these corporations use the data generated through interactions in their platforms and the implications for exercising citizenship rights and for democracy at large.

Currently, the relationship of citizenship with the digital world is considered more complex, integrating issues of collective identities with ample and dangerous possibilities in the context of social networks (Fernández-Prados, 2021). In their book *Being Digital Citizens*, Isin and Rupert (2015), argue that it requires more than being online to become a digital citizen. This is a continuum of their argument about how a citizen becomes one, “what makes a subject a citizen is the capacity to claim rights”, they argue. Following a similar pattern in the digital context, they suggest an action as the condition to become a digital citizen.

*By asking these questions, we are compelled to consider both cyberspace as a space of relations between and among bodies acting through the Internet and how it is brought into being through digital acts. This means to establish a continuous relation between non-digital rights (i.e., civil, political, social, cultural, economic, sexual, etc.) and digital rights (i.e., ownership, access, privacy, anonymity, etc. (p. 39).*

In this perspective, it is through realizing digital acts that digital citizens come to beings. Pangrazio & Sefton-Green (2021) offer examples of what constitutes digital acts, such as, “interpreting multiple streams of local and global information, and, in the age of

datafication, anticipating unknown consequences” (p. 18). Digital acts also include different activities such as doing business or buying products and services online, applying for a government service online or participating in a meeting of civil society one sympathizes with. As digital citizens engage in digital spaces, data about them, their behaviours, preferences, choices and interests at a given moment is collected, with and without their consent and, through Artificial Intelligence (AI), circles back into what becomes available for consumption by the same citizens, creating a dangerous feedback loop, which limits access to diverse sources of information, views of the world and experiences, important for healthy democracies where difference is valued.

As we are witnessing, AI is rapidly infiltrating every aspect of society, including how we exercise our citizenship. In the following subchapters I offer more details about what AI is, how it works and its potential for reproducing inequalities. In chapter 4, I will explore how and if the AU-DPF problematizes and addresses these complex issues regarding the concept of digital citizenship.

## 2.2 Artificial Intelligence

Artificial intelligence describes:

*The result of procedures that allow machines to simulate or imitate some of the capabilities of human beings or very similar to them. That is, the ability of machines to simulate human intelligence processes, especially from computer systems that allow these machines in a similar sense to human beings: perceive, identify, represent and recognize objects, learn, create, reason, plan, store and classify information (data) and create alternative models”* (free translation from Castilla, 2022, p. 9).

AI is also used to describe “an area of computer science devoted to developing systems that can be taught (e.g., through encoding expert knowledge) or systems that can learn (from data) to make decisions and/or predictions within specific contexts” (Smith, & Neupane, 2018, p. 25). The field has existed since the 1950s<sup>2</sup>, but it was only around 2008 that investigations in this field were accelerated, owing to the emergence of “big data”<sup>3</sup>, advances in Machine Learning (ML) techniques and in enabling technologies such as robotics and sensing (Smith & Neupane, 2018, Castilla, 2022).

Therefore, AI can be summarized to “*being everything that a machine carries out, resembling capabilities or behaviours typical of humans*” Castilla, 2022, p. 9). These capabilities and behaviours include practically many of the activities we carry out online, such as language translation, searching for information, creating music, editing texts, building websites, making medical diagnoses, online banking, online shopping, etc. AI is also present in things that we use in the ‘real’ life, such as traffic lights, cars, fridges, smart phones, global positioning systems (GPS), etc.

Nevertheless, AI has limitations and there are some human capabilities it cannot reproduce such as, the use of “common sense”, the ability to “learn continuously and adapt

---

<sup>2</sup> Year according to the Gregorian calendar. All the years mentioned in this document are according to the Gregorian calendar.

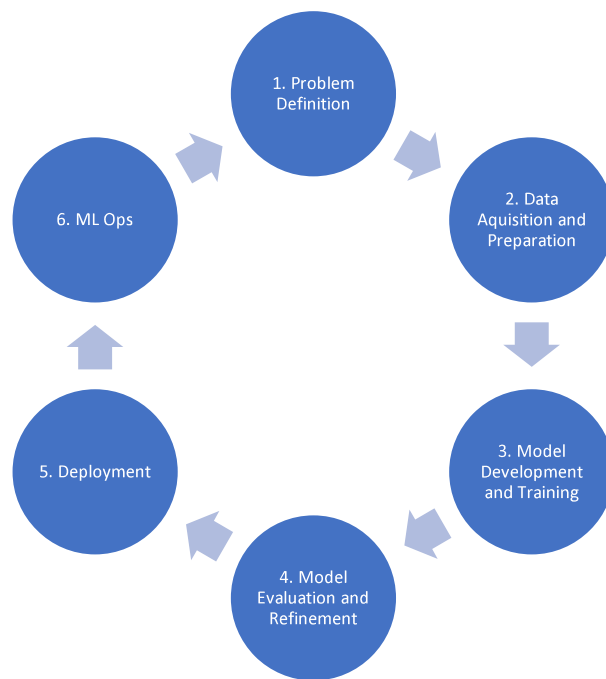
<sup>3</sup> Big data refers to large datasets made possible by the widespread adoption of the internet, mobile phones, and social media, as well as the Internet of Things, a term used to describe how more of daily lives’ tools, such as cars and fridges, are connected to the internet and thus generating data.



on the fly”, ‘self-reflection’, the ability to “understand cause and effect” and to “reason ethically” (Towes, 2021, Castilla, 2022).

Typically, AI development consists of two phases: training and deployment (Towes, 2021). These simplified phases of the AI cycle can also be broken down further into six phases, as indicated in Figure 1, to offer a clearer vision of how AI is developed (see Appendix A for a definition of each phase of the AI cycle). In all the phases, the main ingredients it needs to function are algorithms and data. A computer algorithm is the instructions or set of steps that the computer must follow to obtain a previously established result, to complete a specific task (Castilla, 2022). It is also referred to as a procedure that solves a recurrent problem.

**Figure 1: The AI life cycle**



Source: Originally from Saltz, 2023, modified here

ultimately opinions embedded in codes.

On the other hand, data is the input or the information the algorithms need to carry out the tasks or instructions they have been given. Data is, therefore, “the raw material which powers AI, and AI has turbocharged the power of data. We used to say that data is the new oil – if that’s the case, then AI is the internal combustion engine” (Melamed, 2023). Thus, “data availability (whether data exists) and accessibility (whether data is accessible) are the main drivers behind the development of products that use AI technologies” (Global Partnership on AI, 2020). Therefore, this data, which is not always available or accessible, always reflects a fraction of human capabilities and behaviours. And “which data gets collected and used, how it is cleaned and processed, what we decide to optimize, and which metrics we use to measure success - each of these is a human decision informed equally by our computational knowledge and our human intuition” (Celis, 2021). Therefore, if the data used to create the algorithm is biased, reflecting parts of the experiences, perspectives, and views of some members of society, the AI created will be biased.

These are the building blocks for programming and in summary for the design, creation, and development of AI. Algorithms are what allow the person who develops an AI system or application to translate what is expressed as the problem to be solved or the task to be performed by the application into a language that a computer understands. Consequently, algorithms are deeply dependent on the developers’ perspectives of what the problem is and how it can be solved. Therefore, the idea that technology and specifically AI tools are ‘objective’ is a fallacy because there is a human behind every AI system; as explained by O’Neil (2017), algorithms are

Biased data is not only a concern at the input phase when creating algorithms, but as AI is used, it generates more data, also biased, into the algorithm. As Celis explains, “individuals, governments, and organizations all consume AI products in ways that fundamentally affect the information to which we have access, and therefore directly influence the opportunities we have and the decisions we make (para. 3). Creating an unintentional vicious feedback loop, where on the one side biased data produces biased AI, and on the other, the direct effect on people and social structures loop back affecting the next round of data collected, producing a negative feedback cycle (Noble, 2018, as cited in Celis, 2021).

In chapters 2.3 and 2.4, I discuss the different ramifications and impacts of biased AI, taking into consideration how intersectional systems of oppression might be reproduced through the AI development. Further, in chapter 4, I also explore if and how the African Union Data Policy Framework address these challenges. Addressing the ‘AI-divide’ – the gap between those who have the ability to design and deploy AI applications, and those who do not, might be one route, but is it enough?

## **2.1 AI and reproduction of unequal structures of power**

Since artificial intelligence is created by human beings, it automatically incorporates their way of thinking and behaving, as well as their beliefs. Artificial intelligence mimics the social biases of the data it has been trained with unless designed intentionally with different principles (Fournier-Tombs & Castets-Renard, 2021). As of 2024, gender inequality and various intersecting forms of oppression characterize all the regions of the world. These are manifested in the social norms, institutions and in the way resources and benefits are distributed. Women, people with disability, people living in rural contexts, people of non-conforming genders, people from the global south living in the global north or the global south, for example, are some of the groups who experience systemic forms of oppression. And, as Melamed argues, “all too often data fails to represent groups such as ethnic minorities, people with disabilities, or specific aspects of people’s lives such as incidence of domestic violence” (2023). AI systems trained with biased data or data that is not representative of the different lived experiences and realities of our communities are destined to continue to perpetuate and exacerbate the discrimination already present in society.

Feminists and feminist collectives have highlighted the several ways AI perpetuates gender discrimination. For example, by representing women in stereotypical ways and roles which end up being discriminatory, as was made evident in Fournier-Tombs, & Castets-Renard’ article on the propagation of gendered cultural norms through algorithms, that when automated translation systems translate from languages that do not use gender pronouns to languages that do, like English and French, the model either assumes gender as a function of the noun or verb, for instance, “invest is to men what dance is to women; programmer is to men what secretary is to women”; or, the model “defaults to the male gender in all cases. The female gender is either used in a subordinate context, or in the private sphere, or is completely invisible”.

Discrimination is also perpetuated by associating female names with “terms such as housewife, nurse and receptionist” and male names with terms such as “philosopher, captain and architect” (Fournier-Tombs, & Castets-Renard, 2021). When intersecting gender and race, Buolamwini (2018) demonstrated in her master thesis how AI-powered face recognition tools, had higher error rates for women than for men and for those with darker skins than

those with lighter skins, resulting in women with darker skins being less recognized by these tools.

The potential for constant surveillance, both by states and corporations, is also one of the ways AI has been used to discriminate and control political opponents, critical voices and particularly the more marginalized in society. Gurumurthy & Chami (2017) argues that:

*Pervasive surveillance by state and corporate actors over the bodies and sexual expression of women and gender minorities impedes their sexual and reproductive health and rights. While states regulate women's fertility behaviour through monitoring of communication metadata, "menstruation management" apps convert women's concerns around reproductive health and rights into a technical issue, harvesting data about their bodies without informed consent (p. 2).*

Furthermore, online gender-based violence (GBV) and particularly violence against women and people of non-conforming genders, is a reality everywhere. More data is still necessary to grasp the dimension of the problem. So far, 23% of women have expressed having experienced abuse or harassment online at least once in their lives, and 1 in 10 women has been a victim of one form of online violence from 15 years old (United Nations – UN, 2018). And often, the lack of adequate legal frameworks and institutional mechanisms in some countries to address technology mediated GBV leaves victims with the only option of engaging with unresponsive complaint mechanisms of online platforms (Gurumurthy & Chami, 2017).

In terms of how power is historically unequally distributed, the pattern is not altered when it comes to digital technological development. The biggest corporations in the field of AI development (Apple, Amazon, Google, Baidu, etc.) are based in a few parts of the world. China, Japan and the United States together account for 78% of all AI patent applications in the world (United Nations Conference on Trade and Development, 2019). In 2021, of the 10 biggest AI corporates in the world, 9 are registered in the United States and 1 in China (Cfr. Virginia Tech, India, 2021). Besides, most of the AI development we are witnessing is controlled by the private sector, and their focus is not social justice but profitability.

New industries are also being created through the use of data, with the potential to generate more financial resources. Data is produced everywhere, and the more AI-powered systems are used, more data is created, which is then monetized. However these profits are not shared either with those who help generate the data, i.e., the citizens and users, nor with those affected by the systems that are being produced. In Melamed's words, "*the power differentials between the companies and organizations which collect the data, and which then develop and use AI from that data, and the marginalized communities who might be affected, are stark*" (2023). This looks like a reproduction of existing economic systems based on exploitation, like what occurs with the exploitation of natural resources. The corporates leading in this field are defining the 'rules of the game' regarding how AI functions, what it should be for, as well as what political and policy conditions are necessary to achieve their economic goals.

Feminist collectives, activists and thinkers are contributing to conversations regarding how to 'de-bias' AI, make it fairer and more ethical. I discuss these in the next subchapter. In Chapter 4, I explore if and how the African Union's Data Policy Framework addresses the power asymmetries which maintain the money and the agenda-setting power in the global North, even when the resources to generate the money come from everywhere and from all digital citizens.

## 2.2 Fairness and ethics in AI development

As argued above, AI is not neutral, it represents the value systems, interests, and experiences of those developing it, leading to biased AI models. Various approaches are being tested to ‘de-bias’ data or make more fair models, with the aim to contribute to reducing the role of AI in maintaining and exacerbating existing inequalities and oppressions. Fairness and ethical considerations are key to ensure AI is not discriminatory.

There is the assumption that using fair algorithms will contribute to fair outcomes. However, fairness is contextual, and it does not mean the same for everyone. Kypraiou (2021) defines fairness as an “ethical concept and therefore a contextual one. At best, we can select some ideal of what it means to be ‘fair’ in a specific context and then make progress towards satisfying it in our particular setting”. This adds complexity to the thinking around how to ‘de-bias’ AI, because it is often impossible to satisfy more than one fairness definition simultaneously (Celis, 2021).

As a way forward, Kypraiou suggests discarding perceptions of fairness as a “measurement”, “implying straight forward processes” and rather see it as “an investigative process that requires detection, explanation and mitigation”, and requiring “strong internal governance, checklists and monitoring” (2021). Furthermore, she suggests a process of ethical design processes through the lens of power, by answering the following questions: “*fair to whom, for whom, by whom, and with whose interests and goals are at the centre of the data, the model, and the system*” (Kypraiou, 2021).

Celis, (2021) suggests an approach to ethical considerations that is broader and not only centred on finding solutions to AI systems. By addressing how AI systems interact and affect the people whom they will reach. These include issues such as privacy considerations, interpretability – “the ability to communicate what and how an AI system operates to the public so that an average citizen can understand and trust its predictions” (Rudin, 2019, cited in, Celis, 2021)), and the need to incorporate consultations with stakeholders affected by AI systems on their considerations of fairness, and particularly those coming from more excluded communities.

For instance, the Indigenous Protocol and Artificial Intelligence Position Paper (Jason Edward, ed. 2020) offers different perspectives on ethical considerations in AI development by members of various indigenous communities. One of the considerations is the following risk:

*The potential for AI and related technologies to be used against Indigenous peoples as an extension of colonial practices of exploitation, extraction, and control, particularly those that displace a peoples’ understanding of themselves with a worldview that favours the colonizer” (p. 12).*

This concern has a direct relation with the lived experiences of the people who wrote the protocol and is not likely to be part of the data used to train algorithms. In their paper, ‘Algorithmic colonization of Africa’, Birhane (2020) expresses a similar concern of colonization through AI, arguing that AI developed in and by the global North is “unfit for African problems”, “impoverishes development of local products” and leaves the African continent “dependent on Western software and infrastructure”.



Finally, related to Celis' 'broad' approach to AI, ethical considerations are considerations of societal values and regulation that are enabling factors for ethical and fair AI. This point is directly linked to the objective of this thesis, which also attempts to discover whose values regulations and specifically the AU-DPF, enact. Celis also contributes to the conversation on the assumption that it is better to have improvable AI systems than not to have any, or the idea that the route towards AI is unavoidable for all. Celis' suggests the following questions for analysis and decision in the context of addressing ethical considerations in AI:

*“What policies and regulations do we need?”*

*At what point do we refuse to build a system (as opposed to building a “fair” one?)*

*What can we learn from success (and failures) in movements towards justice?”*

In chapter 4 I explore a little further the questions regarding the type of regulations the African continent needs and the option to say no to the AI race.

### 3. Analytical framework

Public policies are defined in diverse ways. They are seen as “a guide to action, a plan, a framework, [or] a course of action or inaction designed to deal with problems” (Pal, 2001, p. 5, as cited in Hankivsky, O. (Ed), 2012, p. 9). Public policy is both an output from the government and a normative input, see Table 1. It is guided by narratives and dialogues about whether something is a problem or a solvable problem and whether the potential solutions are cost-effective and effective in general (Hankivsky, O. (Ed), 2012).

**Table 1 - Definitions of public policy**

Public policy as an output of government	Public policy as a normative component
what public officials, within government, and by extension the citizens they represent, choose to do or not to do about public problems	because it raises questions about what governments <i>ought</i> or <i>ought not</i> to do... reflects the type of ‘social contract’ that is envisioned for society, including “the written and unwritten agreement that we continually rewrite stating what we want to do for each other collectively and what we want other members of society to do for us as individuals

*Source: adapted from Hankivsky, (Ed), (2012, p. 9)*

Various stakeholders in a society play a critical role in shaping policies, such as civil society groups, corporations, government actors and different types of interest and lobby groups. The interests of different stakeholders, depending on their power and influence, may land in public policies. In this way, and depending on the capacity of the government bodies to implement the policies, “public policy is significant because it is a means by which societies regulate themselves and attempt to channel human behaviour” (Birkland, 2011; Kraft & Furlong, 2009; Schneider & Ingram, 1997, as cited in Hankivsky, (Ed), (2012) and therefore has a deep impact on the people and communities affected by it.

According to the European Training Foundation – ETF (n.d.) “Policy analysis is the process of systematic investigation of the implementation and impact of existing policy (ex-post analysis), and of options for new policy (ex-ante analysis)” with the aim to “facilitate the

choice of sound policy with a view to improvement” (p.7). However, as public policies are frequently and mistakenly portrayed as neutral, the traditional policy analysis approach is perceived “by some as a linear process devoid of value judgments that focuses on measurable phenomena free of power struggles” (Mansfield, Welton & Grogan, 2014, p. 1156, as cited in Hicks, 2023, p. 3).

The effects of public policy on social constructions of genders, frequently seen in binary-woman-man genders and in the power relations between these, is not always a priority in traditional policy analysis. And the focus on policies as solution-generating tools, invisibles the value-charged narratives and priorities inherent in policies. All public policy has a gendered impact, it affects women, men, and gender diverse people, differently.

Feminism(s) have contributed to proving this assumption of neutrality wrong and, to demonstrate further how policies, although presumably neutral on the surface, reproduce economic, social, and political structures that perpetuate inequality and discrimination, particularly for historically marginalized populations (Mansfield, 2014; Hicks, 2023; Ackelsberg, 1992). Furthermore, feminism(s) have also enriched the notion of policy by broadening what is and should be ‘public’ (Young, 1996; Lombardo and Meier, 2015, as cited in Ruiz Garcia 2022). As Ruiz Garcia (2022) highlights, the slogan, ‘the personal is political’ has incorporated issues into the public political agenda, which were not considered political, such as care work, gender-based violence, sexual and reproductive rights, marriage, or LGBTQ rights (p. 3).

### **3.1 Feminist critical policy analysis**

Feminist critical policy analysis (FCPA) has its roots in critical approaches, a focus on the effects of policy on women and gender relations. A FCPA framework departs from traditional frameworks and utilizes a diverse set of questions “that enable analysts to uncover how society constructs gender- and power-based hierarchies in employment, families, religions, schools, businesses, and politics” (Mansfield, 2014, p.3). It is grounded on feminist theory’s emphasis on analysing “laws and policies granting rights, opportunities, privileges, and immunities to white men, cisgender individuals, those without physical or mental health conditions and those who were systematically denied to women, people of colour and people living with disability” (Hawkesworth, 1994, as cited in, Kanenberg et. al., 2019, p. 3).

It focuses on how asymmetric power relations are reproduced through narratives, problematization of the issues, the types of solutions sought, and the budget allocated to respond to the issues identified (Hicks, 2023). The bottom line of FCPA is to demonstrate how many so-called gender-neutral policies negatively impact women, but also men from marginalized communities, gender-diverse peoples and others forced to the margins of society. The approach asks how women are “represented, reproduced, regulated and restrained” (Pillow, 2003, p. 151 in, Mansfield, 2014, p. 3).

For this work, I use two FCPA frameworks, discussed below, namely, Carol Bacchi’s (2012) “What’s the problem represented to be?” and Kanenberg, Leal and Erich’s (2019) revision of McPhail’s (2003) feminist policy analysis, with a focus on intersectionality.

#### ***3.1.1 “What’s the problem represented to be?”***

What’s the Problem Represented to be (WPR) was designed by Carol Bacchi (1999, 2009) as a tool “intended to facilitate critical interrogation of public policy” Bacchi, 2012, p. 21). The approach also questions the neutrality of public policy by establishing a presupposition in analysis that implies the impossibility of objectivity both in policy design,

and in policy analysis. WPR's fundamental premise is that problems are a social construction that get reflected in policies. Bacchi (2012) argues that policy interrogation "starts from the premise that what one proposes to do about something reveals what one thinks is problematic (needs to change). Following this thinking, policies and policy proposals contain implicit representations of what is considered to be the 'problem' ('problem representations')" (p. 21). What this means is that "policies and policy proposals give shape and meaning to the 'problems' they purport to 'address', policy 'problems' that do not exist 'out there' in society, waiting to be 'solved' through timely and perspicacious policy interventions. Rather, specific policy proposals 'imagine' 'problems' in particular ways that have real and meaningful effects" (Bacchi & Eveline, 2010, p. 111, as cited in Hicks, 2023). To illustrate this, she gives the example of a policy that recommends forms of training to improve women's status and promotion opportunities, where their lack of training is perceived as the 'problem', responsible for 'holding them back' (Bacchi, 2012, p. 21).

In this account, Bacchi writes, "policy is not the government's best effort to solve 'problems'; rather, policies produce 'problems' with particular meanings that affect what gets done or not done, and how people live their lives" (2012, p. 22). In this view, "the public is not governed through policies but through problematisations" (op. cit.) created by the government. She illustrates this with the following example: "a stated commitment to 'community cohesion' in a government report implies that there is a lack of this presumably desirable state or condition in the community (i.e. lack of community cohesion is constituted as a 'problem')" (Bacchi)

The WPR approach distances itself from the assumption that 'problems' are neutral and uncontroversial starting points of public policy and emphasizes that both the notions of "the problem" and its partner "the solution" are heavily laden with meaning" (Bacchi, 2012, p.23). It is to unravel this meaning that the WPR approach suggests the following set of six questions that allow for the 'problem' the policy intends to solve to be questioned:

1. What's the 'problem' (for example, of 'problem gamblers', 'drug use/abuse', 'gender inequality', 'domestic violence', 'global warming', 'sexual harassment', etc.) represented to be in a specific policy or policy proposal?
2. What presuppositions or assumptions underpin this representation of the 'problem'?
3. How has this representation of the 'problem' come about?
4. What is left unproblematic in this problem representation? Where are the silences? Can the 'problem' be thought about differently?
5. What effects are produced by this representation of the 'problem'?
6. How/where has this representation of the 'problem' been produced, disseminated and defended? How has it been (or could it be) questioned, disrupted and replaced?

These questions are to be applied to a policy in order to interrogate "the unexamined assumptions and deep-seated conceptual logics within implicit problem representations" (Bacchi, 2012, p. 22), as well as analyze the outcomes of policies, what Bacchi calls the "lived effects of policy decisions" (2012, p.23).

Bacchi suggests, however, that the WPR approach is not a 'formula' set in stone, but, an "open-ended mode of critical engagement." This is how I will apply the WPR framework to the policy analysis, as one of the guiding tools to understand and analyse how the problem definition of the policy has been framed, and where it stands in relation to power relations.

### 3.1.2 *Intersectional feminist framework for policy analysis*

The Intersectional Feminist Policy Analysis framework was developed as an actualization of McPhail's Feminist Policy Analysis Framework (FPAF) developed in 2003. The FPAF aimed to question the neutrality assumption embedded in public policy by developing a method of analysis that "acknowledges the way gender is used to organize societal structures and is regulated through policies" (Kanenberg et al., 2019, p.1). The approach considers that explicit analysis of gender and gender identity, race, socio-economic status, sexuality, and other marginalized identity markers is indispensable to accurately determine a policy's effectiveness and impact.

The FPAF contains a list of evaluative questions designed to examine policy through a "gendered lens" (McPhail, 2003, p. 41) and thus "making women visible in policy" (p. 44), as well as the impact of policy on men and gender relations. McPhail, criticized what she considered a narrow understanding of "women's issues" in policies, traditionally seen as those that directly affect women, such as sexual and reproductive rights and women's socially constructed roles, such as childcare. And, affirmed that "the presumption of gender-neutrality in policy, unless it is a "woman's issue", is a key driver in the marginalization of women and other identities in the social consciousness (Hicks, n. d., p. 8). The questions are structured according to what she calls key issues for consideration in a feminist policy framework, which are issues of equality; market and state control of women; special treatment and protection; the myth of gender neutrality; multiple identities; context of the policy; language; rights and responsibilities; the symbolic versus the material; role equity and change; and the access to/assignment of power (McPhail, 2003). See Table 2 for more details.

McPhail (2003) does not view this framework as exhaustive, rather, recognizes it as a first step to uncover "more fundamental structural problems that must be addressed", for the policy to contribute to a society where all people are valued (p. 58). Furthermore, McPhail asserts that not all the questions are always relevant depending on the policy being analysed.

Fifteen years later, Kanenberg, Leal and Erich (2019) revised McPhail's framework into the new Intersectional Feminist Policy Analysis Framework as "an effort to bring intersectional theories to bear on policy frameworks to make them more inclusive" (p. 9).

The concept of intersectionality was coined by the Afro-American scholar Kimberly Crenshaw, "rooted in the use of critical race theory and Black feminism as a tool to understand the marginalization of Black women within the antiracist theory as well as anti-discrimination law" (Kanenberg et al., 2019, p.4). Intersectionality has been instrumental in improving our understanding of people and their status in society in terms of multiple relative oppressions and/or privileges (Hankivsky, 2012). It "encourages critical reflection allowing researchers and decision-makers to consider the inherently complex relationships and interactions between relevant social factors" and focusing "on the voices that have not been heard; those who do not fit neatly into a particular social category" (Kanenberg et al., 2019, p.4).

In the revision of McPhail's Feminist Policy Analysis Framework, the Intersectional/Feminist Policy Analysis Framework, maintains the key issues identified as key elements of analysis and make three main additions (Kanenberg et al., 2019):

- Intersectional theories, through a set of new question



- The term “gendered policies”. It refers to policies’ differential impact on women, men and gender identities. It also reveals the common assumption of cisgender as the norm and binary understanding of gender that transpires into public policy.
- The concept of “oppression”.

For this work we have focused on three categories of analysis, multiple and intersectional analysis, context and power analysis. Please see Table 2 for the guiding questions in including these categories in a policy analysis. The focus on intersectionality is highlighted using italicized font. The complete guiding questions can be consulted in Appendix 2.

**Table 2 - Intersectional/ Feminist Policy Analysis Frameworks**

	Issues for consideration	Guiding Questions	
		Feminist Policy Analysis Framework McPhail (2003)	Intersectional Feminist Policy Analysis Framework (Kanenberg, et. al. (2019)
1	Multiple Identities (Feminist Policy Analysis Framework)  Intersectional identities (Intersectional Feminist Policy Analysis Framework)	<ol style="list-style-type: none"> <li>1. How does gender in this policy interact with race/ethnicity, sexual identity, religion, nation origin, disability, or other identity categories?</li> <li>2. Are white, middle-class, heterosexual women the assumed standard for all women?</li> <li>3. Does the policy address the multiple identities of women? The multiple oppressions a single woman might face?</li> </ol>	<ol style="list-style-type: none"> <li>1. <i>How do diverse and intersecting identities such as gender, race, ethnicity, sexual identity, gender identity/expression, class, religion, national origin, documentation status, migration status, carceral status, ability/disability, interact with other identity categories?</i></li> <li>2. Are white, middle-class, <i>able-bodied</i>, <i>cisgender</i>, heterosexual women the assumed standard for all women?</li> <li>3. <i>How are systems of power and inequality (racism, classism, colonialism, cisnormativity, heterosexism) used to control or oppress those who occupy different social locations?</i></li> <li>4. Does the policy address the multiple identities of women? The multiple oppressions an individual woman may face?</li> </ol>
2	Context	<ol style="list-style-type: none"> <li>1. Are women clearly visible in the policy? Does the policy take into account the historical, legal, social, cultural and political contexts of women’s lives and lived experiences both now and in the past?</li> <li>2. Is the policy defined as a traditional “women’s issue,” i.e., “pink policy?” How is a policy that is not traditionally defined as a “women’s issue” still a “women’s issue”?</li> <li>3. Is the male experience used as a standard? Are results extrapolated from male experience and then applied to women?</li> </ol>	<ol style="list-style-type: none"> <li>1. Are women clearly visible in the policy?</li> <li>2. Does the policy consider the historical, legal, social, cultural, and political contexts of women’s lives and lived experiences both now and in the past?</li> <li>3. <i>Does the policy make an “essential woman” visible (white, able-bodied, cisgender, and privileged) while leaving others in shadow? Coming out of theories of essentialism where ‘essence’ forms ideas around entire categories and becomes a way of making problematic blanket statements.</i></li> <li>4. <i>Is the white, cisgender, heterosexual, able-bodied male experience used as a standard? Are results extrapolated from male experience and then applied to women? How</i></li> </ol>

		<ol style="list-style-type: none"> <li>4. Have the programs, policies, methodologies, assumptions, and theories been examined for male bias?</li> <li>5. Is women's biology treated as normal rather than as an exception to male-defined norm?</li> </ol>	<p><i>are the specifics of a variety of women's experiences centered to inform the policy (i.e. how are the intersections of a woman's identity brought to light in the policy?)?</i></p> <ol style="list-style-type: none"> <li>5. Have the programs, policies, methodologies, assumptions, and theories been examined for bias <i>at the intersections of gender race/ethnicity, sexual identity, cis-privilege, gender identity/expression, class, religion, national origin, documentation status, migration status, carceral status, ability/disability identity?</i></li> <li>6. Is women's biology treated as normal rather than as an exception to a male-defined norm? <i>Is womanhood not defined in biology? Are transgender women treated as equal to cisgender women?</i></li> </ol>
3	Power Analysis	<ol style="list-style-type: none"> <li>1. Are women involved in making, shaping, and implementation of the politics? In which ways were they involved? How were they included or excluded? Were the representatives of women selected by women?</li> <li>2. Does the policy work to empower women?</li> <li>3. Who has the power to define the problem? What are the competing representations?</li> <li>4. How does this policy affect the balance of power? Are there winners and losers? Is a win-win solution a possibility?</li> </ol>	<ol style="list-style-type: none"> <li>1. Are women <i>representing diversity along race/ethnicity, sexual identity, gender identity/expression, class, religion, national origin, documentation status, migration status, carceral status, ability/disability identities</i> involved in making, shaping, and implementing the policy?</li> <li>2. Does the policy work to empower women <i>of varying race/ethnicity, sexual identity, gender identity/expression, class, religion, national origin, documentation status, migration status, carceral status, ability/disability identities?</i></li> <li>3. Who has the power to define the problem? What are competing representations of the problem?</li> <li>4. How does this policy affect the balance of power? Are there winners and losers? Is a win-win solution a possibility?</li> </ol>

Source: Adapted from McPhail, (2003, pp.47-54) and Kanenberg, et. al. (2019, pp. 13-16).

Although the Intersectional Feminist Policy Analysis aims at acknowledging the people and groups historically marginalized through different intersections of structures of oppression, it recognizes that this model is a starting point in incorporating the “complexity of identity and its contribution to inequality when situated in the social structures of today’s society”. It will always fall short of the numerous characteristics of identity that in connection explain the human condition (Kanenberg, et al., 2019, p.17). That is, the understanding of race, ethnicity, class, gender, gender identity, sexual orientation, and their intersections in producing experiences of discrimination does not tell the full story of multiply marginalized identities.

I do not answer each question individually, however, I use this framework, as guidance to understand who is excluded and included and who is losing and gaining rights in the Framework.

### 3.2 Decolonial feminism

Decolonial feminism reflects an effort to retell the stories of lived experiences and of women and people that identify themselves as women from the global South. It is also an attempt to break away from ‘hegemonic’ thinking of feminism(s), that tend to essentialize the category of women, and focus on the experiences of white, cisgender and middle-class women. Like intersectional theory, it considers that gender as a category of analysis alone, cannot explain women’s oppression.

It was coined by Maria Lugones in 2000 and encompasses numerous voices of feminists from regions that have experienced colonialism, to criticize ‘mainstream’ feminisms, from the perspective of what Collins (1998) named the ‘standpoint’. This is, an understanding of oppression from the historical and geopolitical experiences that reflect the realities of other forms of oppressions women face, such as cultural, racial or class. It is also a critique on ‘mainstream’ feminism(s)’ lack of acknowledgement that patriarchy did not oppress all women in the same way. That socially constructed categories of class, race and sexuality aggravated women from the global South’s experience of patriarchy.

The concept of coloniality was coined by Anibal Quijano, and is distinct from colonization. The latter refers to the historical and colonial experience of political, cultural, and administrative control, that took place within a certain period, for example between the 15<sup>th</sup> and 19<sup>th</sup> century in the American continent or in the 20<sup>th</sup> century in the African and Asian continents. Coloniality refers to the power systems and logics that endure after the end of colonialism, such as racism, xenophobia, or the concept of gender. Additionally, coloniality refers to “an environment, a state of things that is not easily visible, strictly speaking, it is constituted as a blindness, which is made invisible by [having been] naturalized” (Free Translation from, Red de Feminismos Decoloniales, 2014, p. 458). For example, the way in which in most African academic circles, the depth of knowledge held by women ‘seed custodians’ in some African countries, built after years of experimentation, observation, learning and passing of knowledge, is categorized as traditional knowledge and not strictly ‘scientific’, reflects how coloniality permeates systems of thinking and of seeing the self.

Along these lines, Quijano (2009), for example argues that race is a product of modernity, to produce ‘differentiation between subjects’ and to produce hierarchies between these subjects “to ensure the power relations thus configured” (p. 101). Besides, these hierarchies are then through processes of colonialism and coloniality, portrayed as universal. As Oyèrónkè (2002) writes, “*The last five centuries, described as the age of modernity, have been defined by a number of historical processes including the Atlantic Slave Trade and attendant institutions of slavery, and European colonization of Africa Asia and Latin America. The idea of modernity evokes the development of capitalism and industrialization, as well as the establishment of nation states and the growth of regional disparities in the World system. The period has witnessed a host of social and cultural transformations. Significantly, gender and racial categories emerged during this epoch as two fundamental axes along which people were exploited and societies stratified*” (p. 1).

Therefore, decoloniality implies an acknowledgement of how coloniality influences how post-colonial subjects are created and re-created. Which is from an experience of colonialism, modernity, capitalism, and their consequent processes of racialization and sexualization of social relations. In this sense, decoloniality “*for some feminist [is] a political position that cuts across individual and collective thinking and action; our imaginaries, our bodies, our sexualities, our ways of acting and being in the world and that creates a type of*

*intellectual ‘maroonage’ of social practices and the construction of one’s own thinking according to specific experiences”* (Free translation from Pichardo, 2014, p. 326)

Lugones (2014) criticizes the concept of gender as a colonial imposition and thus identifies the need to decolonialize the term. The ways in which gender and sexuality are imposed in the territories that experienced colonialism, represented euro-centric experiences and fears (for example, the definition of bisexual people as monstrous, in societies where people’s non-binary gender identity was not an issue. Thus, the imposition of heteronormativity was also an avenue for indigenous people to become men and women.

Therefore, gender relations, from a standpoint or situational analysis of people with colonial history, are seen as imposed, while the local ways of thinking and living gender relations and sexuality were forcibly erased. In this sense, it is almost impossible to think of gender and sex from and/or in the global South, disconnected from race, from class or cast, for example.

Oyèrónkè (2002) questions the notion of a universal patriarchy as well as the concept of gender as the explanation for the subordination and oppression of women worldwide. *“Because gender is socially constructed, the social category “woman” is not universal, and other forms of oppression and equality are present in society, additional questions must be asked: Why gender? To what extent does a gender analysis reveal or occlude other forms of oppression? Which women’s situation does feminist scholarship theorize well? And of which particular groups of women? To what extent does it facilitate women’s wishes, and their desire to understand themselves more clearly?”* (p. 2). Oyèrónkè argues that mainstream feminism originates and articulates a great deal of its thinking from the notion and experience of the nuclear family and she contests the universality of this model of family as being a colonial imposition, foreign to many African communities.

The nuclear family, as a capitalist unit of production, is composed of people organized by gender categories. In this way, gender plays two key roles in the nuclear family it is the “organizing principle of the family” and on the other side, “gender distinctions are the primary source of hierarchy and oppression within the nuclear family” (Oyèrónkè, 2002, p. 4.), father and mother for example, would be considered gender categories. However, this model of family is not ‘naturally’ universal, rather a Euro/ American model that has been promoted as universal through colonialism. And Oyèrónkè, uses the example of the Yoruba community in Nigeria who did not organize socially through gender categories. Power relations within the family were not organized by gender, the organizing principle was seniority, independently of gender Oyèrónkè, 2002, pp. 5-6). Furthermore, Seniority is a dynamic principle and not static, as gender, thus diffusing power relations.

The universalization of the idea that all societies had a nuclear and patriarchal family is a colonial ‘mistake’ and does not serve as an analytical model of families and power relations in societies where gender is not the main organizing category. Gender was a category introduced that made sense to the colonizer. For Oyèrónkè (1997, as cited in, Lugones, 2014, p. 64), the oppressive gender system that was imposed on the Yoruba society began to transform the society much more than the organization of reproduction.

Following in the flow of these decolonial feminists, an invitation to myself, is to go beyond the obvious, beyond how I also experience and reproduce coloniality in my own thinking and view of the world. For this research, I am also interested in whether and how coloniality is reproduced or addressed in the policy. I will be searching for narratives that inform me about forms of capitalist exploitation, modernity, and representation of the



diversity of African peoples' lived experiences as well as hierarchies of ways of knowing (indigenous knowledge systems for example, 'academic' knowledge).

## 4. Analysis

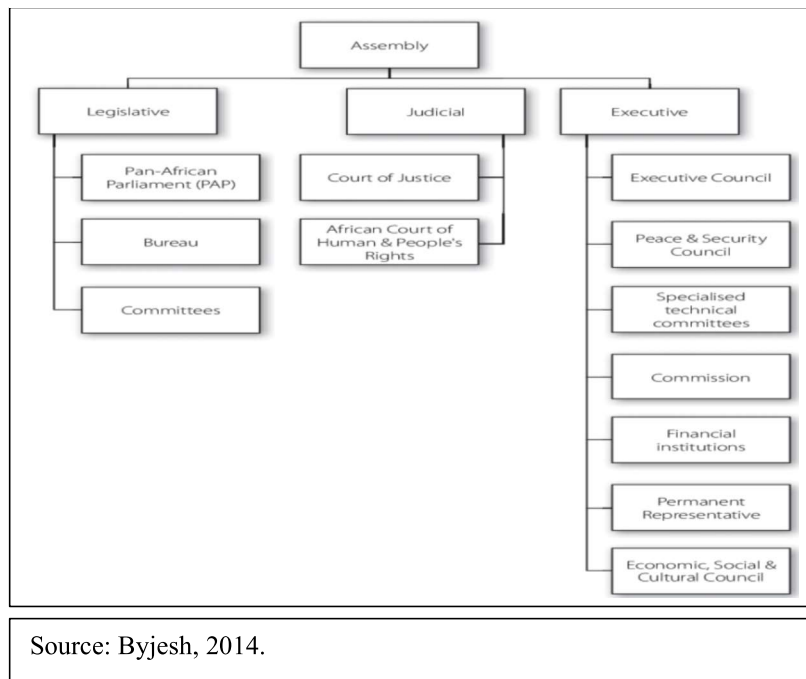
### 4.1 Contextualization

The African Union (AU) is a regional pan-African organization composed of 55 member states representing the countries in the African continent. It exists from 2002, as a successor of the Organization of African Unity (OAU) which existed from 1963 to 1999. The OAU was created in the context of Africa's anti-colonial and independence movements. The purpose of the organization according to its Charter, was to promote the unity and solidarity of the African States; coordinate and intensify their cooperation and efforts to achieve a better life for the peoples of Africa; defend their sovereignty, their territorial integrity and independence; eradicate all forms of colonialism from Africa; and promote international cooperation, having due regard to the Charter of the United Nations and the Universal Declaration of Human Rights (African Union, n.d). The decolonization efforts were achieved through diplomatic and logistical support to liberation movements.

The AU shifted its focus from decolonization and eradication of Apartheid towards increased cooperation and integration of African states to drive Africa's growth and economic development. Its vision is *"An Integrated, Prosperous and Peaceful Africa, driven by its own citizens and representing a dynamic force in the global arena."* This vision is achieved by focusing on promoting unity and solidarity between its member states and increasing socio-economic cooperation (Luursema, 2023). The objectives of the AU also include ensuring the effective participation of women in decision-making, particularly in the political, economic and socio-cultural areas; developing and promoting common policies on trade, defence and foreign relations; as well as promote and protect human and peoples' rights in accordance with the African Charter on Human and Peoples' Rights and other relevant human rights instruments.

In terms of its structure, the AU has several legislative, judicial, and executive bodies, as illustrated in Figure 2. However, the "Assembly of Heads of State and Government is the AU's supreme policy and decision-making organ. It comprises all Member State Heads of State and Government" (African Union, n.d.). The role of the Assembly is to "determines the AU's policies, establish its priorities, adopts its annual programme and monitors the implementation of its policies and decisions" (Luursema).

Figure 2: The institutional structure of the AU



The African Union has had many challenges and several successes with direct benefits in the lives of populations of African countries. In terms of success, it has intervened in successful peaceful negotiations in the region, secured over 1 billion doses of COVID-19 vaccines to be distributed among member states in 2020, created the African Continental Free Trade Area (AfCFTA) in 2021, the largest free trade area in population and geographic size, spanning 1.3 billion people; and,

succeeded in creating the Pan-African Payment and Settlement System (PAPPS), a financial infrastructure, launched in January of 2022, allowing companies in Africa to transact in their local currency when doing business with other AfCFTA members (Luursema, 2023).

In terms of challenges the AU faces, different interests and views of the role and power of the organization has mired its progression towards its vision. Another main challenge is financial. Contributions by member states constitute only a small part of the organization's costs, while 75% of the budget is financed by external partners, which undermines the AU's decision-making amplitude (Luursema, 2023). An example of this is how, in 2021, the European Union (EU) was able to "adopt new financial tools that allow it to bypass the AU when funding national and sub-regional military initiatives (Luursema, 2023)

#### 4.1.1 Digitalization in Africa

Worldwide, the African continent has the youngest population; 40% of Africa's almost 1.4 billion population are under the age of 15 (Statista, 2023), which many consider an advantage for the 4IR if they can get the right skills. Some African countries have been preparing for this era, and public universities in South Africa, Ghana, Uganda, Nigeria, the Democratic Republic of Congo, Rwanda, and Kenya, for instance, offer AI-related courses (Smith & Neupane, 2018). However, the enrolment rate at tertiary education in the continent is below 20%, with only a few countries scoring above that mark (Kigoto, 2023). This is a legacy of the challenges of accessing primary and secondary education, which gets worse when we add the gendered impacts of such challenges. In 2020, in Sub-Saharan Africa more girls (69% than boys (63%) completed primary education, which is a major shift from the results in the last decades. However, the trend changes in secondary school, with 44% of girls in comparison with 46% of boys completing lower secondary school and 26% of girls, and 29% of boys completing their upper secondary school (World Economic Forum, 2022). When it comes to accessing tertiary education, there are significant gender differences as well in access to Science, Technology, Engineering and Mathematics (STEM) courses, which

although there is a cry for AI development to include more discipline diversity, most of the opportunities created are in STEM-related fields. “In sub-Saharan Africa, women are less likely to select STEM courses as compared to non-technical courses (humanities and arts) due to discriminatory barriers, as opposed to their preference” because prevailing “cultural gender stereotypes in and outside of education dictate course choices for students” (Education Sub Saharan Africa- ESSA, 2021). Therefore, the skills base of the continent’s workforce to advantage of the 4IR is low.

Access to the internet is growing, but it is still not universal. This growth is attributed to improved internet infrastructure on the continent, such as submarine cable connections. According to Effective and Inclusive Diplomacy - DiPLO (n.d) in 2022, 71 cable systems were connected to Africa or under construction compared to 16 in 2008. This is also being made possible, because tech platforms such as Google and Meta are building their own submarine cables (DiPLO), although it raises questions on whether these corporations might impose restrictions to access or to digital traffic. Currently, internet access in the continent is “made available – in varying degrees – through copper wires, fibre optic cables, mobile networks, and satellites”. Mobile devices are the most relied on for internet access in the continent (DiPLO). In 2021, mobile broadband coverage – via 3G and 4G networks – was available to 82% of the population in Africa (International Telecommunication Union – ITU, 2021). Although, close to 30% of Africa’s rural population still lacks mobile broadband coverage (ITU). In 2021, the gender gap in access to the internet in Africa was shrinking, with 24% women and 35% men using the internet.

There has been notable growth in Africa’s technological sector. “Growth in Africa’s ICT sector has mostly been driven by expanding mobile digital financial services” (Smith & Neupane, 2018). However, AI systems are being deployed in the continent, particularly in five countries, Ethiopia, Ghana, Kenya, Nigeria, and South Africa. Most solutions are in line with national development, namely health and agriculture, as well as the financial services sector. AI initiatives in these countries include (Gadzala, 2018):

- “Project Lucy” in Kenya is an extension of IBM’s supercomputer “Watson” to address challenges in the agriculture, healthcare, financial inclusion, human mobility and water and sanitation sectors.
- iCog Labs in Ethiopia is a privately operated research lab addressing issues in the areas of education and agriculture through AI research and development services for Ethiopian and international customers and training for young Ethiopians in computer coding, hardware, and entrepreneurship.
- Kudi AI chatbot, integrated into Facebook’s Messenger application in Nigeria, with the aim to facilitate mobile banking and payment services to users without access or unfamiliar with browser-based online banking.
- MomConnect, a chatbot initiated by South Africa’s National Department of Health, to connects pregnant people with pre-and post-natal services. Those registered are able to “chat” with the app and receive healthcare advice relevant to their pregnancy.
- Google’s first AI research centre in Africa, opened in Ghana in 2018 to support the exploration of AI’s possible applications in Africa.

All these initiatives were made in partnership with the private sector, including a prominent role of the technology giants such as IBM, Google, Microsoft and Facebook. And they have all made progress in at least two components of what is called the stakeholders in the AI ecosystem, namely:

- Policymakers (legal frameworks, open data and strategic investments)
- Academia (research, exchange of ideas)
- Industry (development, investment, commercialization)
- Civil society (network, accountability, inclusion)
- International community (best practices, platforms for discussions) (Access Partnership Microsoft and University of Pretoria, 2018, as cited in Smith & Neupane, 2018)

The five countries have numerous technology hubs which serve as research centres. In 2019 Nigeria had 90 tech hubs, South Africa had 78, Kenya had 50, Ghana had 27 and Ethiopia, 8 (Statista, 2024). South Africa has several research groups and forums such as the AI Summit, sponsored by multinational tech corporates and the Singularity University's South Africa Summit, and over 100 companies developing or using AI systems in their operations (Gadzala, 2018). In Kenya, the government has created a "Blockchain and Artificial Intelligence Taskforce" to "explore how the technologies can best be used to advance the country's development". (Gadzala) The taskforce's 2019 report, made recommendations for the government to regulate AI (Ministry of Information, Communications, and the Digital Economy, 2019). In Nigeria, the government approved the establishment of an agency on robotics and AI for the southeast region (Gadzala). South Africa and Ghana have enacted data protection legislation regulating how personal information is acquired, stored, processed and disclosed and, in the case of South Africa, establishing a supervisory function to ensure legislative compliance. Finally, Kenya and Ghana have launched an open data initiative to make big data available for development of AI systems (Gadzala).

#### 4.1.2 African Union's Digitalization policies and initiatives

For the AU, the digital economy has the potential to contribute to the Sustainable development goals and Africa's Agenda 2063: The Africa We Want. This document is Africa's blueprint and strategic framework to achieve its goal for inclusive and sustainable development, particularly its socio-economic transformation (African Union, 2015). Several initiatives and frameworks have been developed with the aim to allow African countries to also benefit from increased digitalization, particularly attempting to address the key components identified as enablers to benefit from a digital economy, namely, skills development, infrastructure and policy and regulation. Table 3 below summarizes some of these policies that have paved the way for the African Union - Data Policy Framework we analyse in chapter 4.2.

**Table 3 - African Union's Policies and Initiatives on Digitalization**

Instrument	Aim	Year
The Program for Infrastructure Development in Africa (PIDA)	It is the key planning/programming document guiding the continental infrastructure development agenda, policies, and investments priorities in transport, energy, ICT, and Trans-boundary water sectors.	2011 - 2030
The African Union's Convention on	It establishes a framework for cybersecurity in Africa through organization of electronic transactions, protection of personal data, promotion of cyber security, e-governance and fighting	2014

Cybersecurity and Data Protection	cybercrime. It has yet to take effect as only a few countries have ratified it.	
Smart Africa Initiative	The goal of the alliance is to develop a digital single market on the African continent by 2030, through provision of affordable broadband and the use of ICTs.	2014
The Policy and Regulatory Initiative for Digital Africa (PRIDA)	A joint initiative of the AU, the EU and the International Telecommunication Union (ITU), to create a favourable policy environment and regulatory conditions that support and facilitates Africa's Digital Transformation and Integration.	2018 - 2023
Nairobi Manifesto on the Digital Economy and Inclusive Development in Africa	Addresses the challenges to establish Africa's digital economy, namely, small number of internet users, large segments of the population that remain unbanked or without a postal address. It outlines policy recommendations on topics such as ICT infrastructure and services, payment solutions, access to financing and women empowerment.	2018
The African Continental Free Trade Area (AfCFTA)	Its goal is to create a single continental market, among other strategies, by eliminating trade barriers and boosting intra-Africa trade.	2019
Africa E-commerce Agenda –	It offers a framework for e-commerce growth in Africa, with the understanding that e-commerce can become a driving force for sustainable development.	2019
The Digital Single Market (DSM) for Africa	It aims to create a seamless and secure digital space across the continent, where people and businesses can access and offer digital goods and services without barriers.	2020-2030
Digital Transformation Strategy for Africa	It is a roadmap to employ technology and innovation to meet Africa's development goals by, investing in digital infrastructure, skills development, entrepreneurship, and research and development.	2020 - 2030

#### 4.1.3 The African Union Data Policy Framework

The African Union Data Policy Framework (AU-DPF or Framework), approved on July 28, 2022, results from the AU's mandate to define regulatory frameworks that facilitate the realization of the AU's vision. The Framework provides a blueprint for how the AU will accomplish its goals for Africa's digital economy, by leveraging the power of data. According to the AU-DPF (2022), this instrument,

*Provides high-level principle-based guidance to member states in their development of data policy appropriate to their conclusions. It identifies the key principles of effective data governance and strategies for implementation at national, continental, and international levels. This includes guidance on the appropriate institutional,*



*administrative, and technical procedures and safeguards that need to be implemented. The aim is to ensure national and sub-regional data ecosystems are built on trusted, interoperable digital infrastructure and processes which advance a harmonized continental data system that enables equitable and sustainable economic growth and development for all of Africa's people” (p. 18).*

The Framework consists of six sections, namely: (i) guiding principles, (ii) definitions and categorization of data, (iii) enablers to drive value in the data economy, (iv) data governance, (v) international and regional governance, and (vi) an implementation framework.

### **Guiding principles.**

The Framework's guiding principles aim to foster “regional prosperity, economic growth and development, social progress and coordinating continental efforts”. The principles include (AU-DPF, 2022, p.19):

- **Cooperation:** African Union Member States should cooperate to foster exchange and interoperability of data systems within the African Digital Single Market, as well as promote coherence and harmonization of policies.
- **Integration:** Policies should promote intra-Africa data flow and remove legal barriers to data flows subject to necessary data protection, human rights, and security considerations
- **Fairness and inclusiveness:** policy implementation should ensure it is inclusive and equitable to redress national and global inequalities by being responsive to the voices of those marginalized by technological developments.
- **Trust, safety, and accountability:** Member States should promote trustworthy data environments that are safe and secure, accountable to data subjects, and ethical and secure by design.
- **Sovereignty:** Member States and other stakeholders shall cooperate to create capacity to enable African countries to self-manage their data, take advantage of data flows, and govern data appropriately.
- **Comprehensive and forward looking:** the framework shall enable the creation of an environment that promotes investment and innovation through the development of infrastructure, human capacity, and harmonized regulations and legislation.
- **Integrity and justice:** Member States shall ensure the collection, processing, and usage of data are just and lawful and that data should not be used to discriminate or infringe people's rights.

### **Data definition and categorization.**

The Framework does not define data and acknowledges that data means different things for different communities. It relegates that responsibility to the national data protection authorities and recommends that these “should provide the industry with definition clarity on how to differentiate between personal and non-personal data to enable the collection, storage and processing of data collection by companies compliant with data protection regulation” (AU-DPF, 2022, p.20). This recommendation is set on the assumption that “defining specific types of data as personal may help data protection authorities protect data subject's rights more efficiently” (AU-DPF).

### **Enablers to drive value in the data economy.**

The Framework identifies certain conditions that are indispensable to reap benefits from the data economy. These include a policy framework that facilitates obtaining data, enhancing human, institutional and technical capabilities to create value from data, encouraging data sharing and interoperability, and increasing legitimacy and public trust in the state to manage citizen's data in a responsible manner (AU – DPF, 2022). To achieve this, five areas of focus have been highlighted: (i) foundational infrastructure and trustworthy systems, (ii) institutional arrangements for complex regulation, (iii) the need to rebalance the legal system, (iv) create public value, and (v) promote coherent sectoral policies.

The Framework identifies specific foundational data infrastructures that facilitate data ecosystems and should be prioritized, namely:

- **Cloud services** and cloud-based services, due to “cost savings through enhanced systems efficiency” such as systems management and maintenance, storage resources, and software.
- **Big data** to serve analytical purposes for both the public and private sector to improve decision-making, forecasting, and allow for better consumer segmentation and targeting; and
- **“Platformization”** to facilitate transactions, networking, and exchange of information in the context of e-commerce services within and across national borders. (AU-DPF, 2022, pp. 23-24).

The Framework recognizes the importance of digital infrastructure for the data economy and, to build it recommends the deployment of broadband, enabling ICT architectures, and creating trustworthy digital ID systems through public-private partnerships to spur entrepreneurship and public data reuse. It also encourages Member States to engage stakeholders at all levels to ensure organizations use data to further the public good.

Trustworthiness of data systems is a key issue in the Framework, particularly in the interest of safeguarding basic human rights through the rule of law. It concludes that,

*Trust in data transactions, statistical data, and data-based decision making must therefore be sustained by a transparent and robust legal and regulatory framework that simultaneously safeguards against data harms and supports enablers that facilitate access to data, data sharing, and data alterations in a responsible manner”* (AU-DPF, 2022, p. 27).

The Framework recommends building a trusted digital ecosystem through five interrelated considerations (AU-DPF, 2022, pp. 27-30):

- **Cybersecurity** – The Framework recognizes that while laws and regulations to govern cybersecurity can mitigate vulnerability threats, they can also if misused, undermine fundamental rights of equity, dignity, and security. Policies should therefore be proportional and avoid limitation of online human rights.
- **Cybercrime** – The Framework stresses the need to increase the number of non-state actors in multilateral and regional forums on cybersecurity and to increase capacity to implement regional and global conventions on cybercrime.
- **Data Protection** – The framework acknowledges the need to mitigate privacy risks when processing personal data and recommends data governance institutions and policies that are responsive to contexts and to the socio-economic and technological realities and capabilities of the public. The Framework also cautions against the insufficiency of digital means of obtaining consent for certain communities who might

have limitations in understanding it and raises the need to pay attention to individual rights of privacy as well as community and collective rights that may be important when dealing with issues of public interest.

- **Data Justice** – The Framework suggests this concept to broaden the view of data protection from the individual to the collective because it extends beyond notions of political rights and justice to social and economic rights. The Framework considers that if data governance in relation to data availability, accessibility, usability and integrity are regulated in the public interest, they could contribute to a better distribution of the opportunities for the consumption of data services and the production of services.
- **Data Ethics** – The Framework recommends the development of codes of ethics by all stakeholders working with data as a way to mitigate harm and reduce risk. It supports inclusive ethical codes that consider the voices of citizens, consumers, marginalized and underrepresented people, that are responsive to the African context and take note of gender considerations, ensuring they reduce harm and exclusion to women and girls.

The Framework notes that that data economies require future-facing, agile regulatory systems and recommends Member States prioritize building regulatory capacity, avoiding regulatory silos and harmonizing sectoral policies. It also recommends Member States enable data regulators with internal and external capacity to enforce mechanisms across sectors. The Framework also recommends the creation of a transparency portal to monitor data breaches and consumer data flows. It identifies key challenges for regulatory coordination, including incoherent sectoral policies and incompatible regulatory goals, and provides recommendations for overcoming challenges in competition, trade policy, taxation policy, data flows, and e-commerce policy.

### **Data Governance**

Regarding data governance, the Framework seeks to find a balance between encouraging an ecosystem with multiple stakeholders to improve data access and use and encouraging data repurposing and combination to limit the harms and risks of processing. The Framework prioritizes using data for its “greatest economic and social potential” but recognizes the need in certain circumstances to restrict data flows to ensure societal protection (AU-DPF, 2022, p. 46). Data governance is structured to respond to seven issues, namely, (i) data control, (ii) data processing and protection, (iii) data access and interoperability, (iv) data security, (v) cross-border data flows, (vi) data demand, and (vii) special categories of data.

- **Data Control.** The Framework recognizes the importance of facilitating the control of data for “firms, and government” and the need for policies to limit the way control is exerted as well as to clarify the obligations and responsibilities in terms of control. The Framework recommends that Member State design data subjects’ rights to provide personal data control and suggests combining these with other ownership and/or management models such as data trusts and stewardships. At the national level, the Framework recognizes two mechanisms currently used by states to exert data control, namely data sovereignty (the concept that data generated in or passed through national internet infrastructure is protected and controlled by that state or subjugated to local jurisdiction) and data localization (the artificial erection of legislative barriers to data flow, such as through data residency requirements and compulsory local data storage). However, the Framework cautions against pursuing both approaches without specifically tailored reasons, as they are both perceived as making data susceptible to security threats such as cyber-attacks when applied strictly. (AU-DPF, 2022, pp. 47-48)



- **Data Processing and Protection.** In this section, the Framework outlines policy guidelines for processing personal data. It recommends the construction of robust data protection mechanisms for the processing of personal data, including the promulgation of data subjects' rights. Furthermore, it calls on Member States to adopt privacy-by-design approaches when developing digital technologies and systems, by which privacy is incorporated into the system by default. The Framework suggests de-identification techniques, such as anonymization and pseudonymisation, to provide partial data protection but also acknowledges the limitations of such techniques in the absence of "strong legal rights for data subjects and a regulator with the capacity to enforce data protection". And it recognizes the need to ensure that constraints to personal information processing do not impede data flows. (AU-DPF, 2022, pp. 50-51)
- **Data Access and Interoperability (Open Data).** The Framework stresses the need for Member States to take proactive measures to facilitate data access through open government data, as well as broader data portability to facilitate competition and consumer benefits. It recommends creating open data standards for public data; establishing data portability rights particularly in consumer contexts as a way to allow data subjects the right to obtain the data a controller holds on them; prioritizing data partnerships as mechanisms for advancing quality and privacy-preserving open data; and facilitating specificity data categorization as a method to realize forms of risks related to sensitive categories of data such as children's data. It also recommends that Member States establish open data policies, Data Policy Authorities (DPA) to issue codes of conduct and implement multi-sectoral open data initiatives in priority data sectors like health, research, and planning. (AU-DPF, 2022, pp. 51-52)
- **Data Security.** The Framework acknowledges the importance of data security for preserving privacy, confidentiality, and integrity, and for building trust in the digital ecosystem. It focuses on the physical security of hardware systems and the security of networks, applications, and software, as well as the norms and regulations underpinning such systems. The Framework focuses on the following areas: Data Security and Localization (The need to prevent data security from serving as a barrier to the free flow of data or as justification for data protectionism); Transparency Challenges (acknowledges the difficulties of upholding transparency through data security policies and recommends as a route to promote transparency that Member States increase their efforts to coordinate on incident and vulnerability reports, adhere to international cybersecurity standards, and create mature markets for cybersecurity and data processing); and Regional Coordination (by which Member States are recommended to establish a joint sanction regime for cyber-attacks to promote interoperability and coordination of cybersecurity mechanisms). (AU-DPF, 2022, pp.53-54)
- **Cross-Border Data Flows.** The Framework recognises "cross-border transactions and personal data flow across countries are essential for the creation of common markets and particularly for the realisation of the African Free Trade Area". The Framework acknowledges emerging tensions in cross-border data flows, like the relationship between data sovereignty and cross-border data flows, the limiting of cross-border data flow and the risk of losing business opportunities and market competitiveness, well as the regulation of data flows in the absence of comprehensive data protection laws. The Framework offers the following recommendations to Member States to facilitate cross-border data flows: Provide minimum standards for cross-border data flows; Establish reciprocity as a central principle for permitting cross-border data flow; Prioritize data

specificity to avoid unintended restrictions; and build regional coordination enforcement capacity. (AU-DPF, 2022, p. 54)

- **Data Demand.** The Framework acknowledges the need to “stimulate demand for data, data cultures and innovation” and to foster productive use of data across stakeholders, namely the public sector, private companies of different sizes, and individual users and citizens. The Framework recommends the creation of data communities, which should be included in the processes of data policy-making and in the establishment of open government data initiatives. Data communities can include universities and civil society organizations (AU-DPF, 2022, pp. 55-56)
- **Special categories of data.** The Framework recognises that certain categories of data and specific sectors might require tailored data governance, such as health or children’s data. It recognises that special treatment of specific data “creates a set of data silos that render data less useable and may raise compliance costs, specifically if there are incompatible regulations or requirements”. To solve this and ensure data access and interoperability, the Framework recommends that data that requires special consideration is clearly identified and specified so that special access is aligned with general data rules. It dissuades Member States from using special data regimes that are not integrated into national data regimes to avoid regulatory distortion. (AU-DPF, 2022, p. 56)

### **International and Regional Governance**

The Framework recognizes transnational and regional cooperation to ensure “cybersecurity and to address data protection concerns associated with the changes in data economics”. It recommends the establishment of a consultation framework to foster collaboration between the different stakeholders in the continent dealing with data; strengthen links with other regions and coordinate Africa’s common position on data in international negotiations; and support the creation of a continental data infrastructure to enable data-driven technologies, such as Big Data, Machine Learning and Artificial Intelligence. The Framework highlights the need to develop and strengthen continental instruments and institutions to accomplish common goals, such as facilitating data flows while ensuring data protection and digital safety. It also offers guidance on developing open data portals, similar to the African Development Bank’s central open-data portal, such as institutional data portals, and volunteer-driven community data sharing initiatives to facilitate data sharing and creating a collaborative digital ecosystem. (AU-DPF, 2022)

### **Implementation Framework and Stakeholder Mapping**

Finally, the Framework proposes an implementation framework divided into five non-linear phases and identifies key stakeholders with potential to facilitate its implementation. The phases are the following ((AU-DPF, 2022, pp. 62-63)

- Phase 1: Adoption of the Framework with the following activities: Member States adopt the Framework; design of monitoring for the Framework; and establish a mechanism within the AU for centralizing regional data engagement.
- Phase 2: Establish buy-in/ Ownership with the following activities, align with continental instruments, engage continental and regional structures on areas of collaboration and explore alignment with international instruments and structures.
- Phase 3: Continental support for Member States to meet preconditions, with activities such as developing broadband infrastructure and regulatory frameworks.

- Phase 4: Domestication, including activities such as engaging domestic actors, domesticating the Framework by establishing data regulatory systems and allocating resources for implementation.
- Phase 5: Collaboration, including activities such as engaging at international forum decision-making, monitoring member implementation and participating in continental activities.

The key stakeholders identified to support the implementation, particularly in phases 2, 4 and 5, are: The UN, various multilateral organizations, internet governance structures, international organizations for standardization, regional communities and structures, national departments, statistical agencies, regulatory authorities, and data governance committees.

## 4.2 Critical analysis

To analyse the African Union Data Policy Framework, I will first look at the instrument's narrative and its relation to gender equality before analysing what is missing in it concerning gender equality and social justice. I also explore how the Framework address the power asymmetries, which maintain the money in the global North, even when the resources come from other regions, and maintain socio-economic systems that maintain these power asymmetries.

### 4.2.1 *What is the problem represented to be?*

Although the African Union Data Policy Framework seeks to address different aspects of data, its narrative as well as its distribution of attention to different topics, indicates that the main problem it is trying to address is related to the African continent's exclusion from the 'data economy'. The aim of the framework is to

*strengthen national data systems for effective use of data by creating an enabling environment that stimulates innovation and entrepreneurialism to drive the development of data value-driven economies and that facilitate the interoperability of systems and across border data flows necessary for the realizing of the African single digital market (AU-DPF, 2022, p.5)*

Data policy is framed within the interest of harnessing economic benefits being 'lost' by not being on the train of data powered economies. This is also expressed through an expectation of the role of a regional common data policy in harnessing the "potential of data-driven solutions to overcome most of Africa's development challenges" (AU-DPF, 2022, p. 3) or, in turning "public and private organizations into data driven enterprises, improving information flows and efficiencies and creating more competitive economies" (p. 1).

The Framework builds on the African Union Digital Transformation Strategy, which envisions a 'single digital market' for the continent. The framework, therefore, "presents opportunities for countries to ensure that laws proactively enable access to data for developmental, innovative and competitive purposes" as well as for a harmonization of these laws to "create the scale and scope in the market necessary for data -driven value creation and innovation, which will catalyse the single digital market" (p.2). The framing is further revealed through the justification for the development of such a policy framework as follows:

*The development of the AU Data Policy Framework is necessary to realize the shared vision and common approach of an integrated African data ecosystem. This data ecosystem should support the establishment of an Africa Digital Single Market*

*(DSM), foster intra-Africa digital trade, and boost the development of inclusive, data-enabled entrepreneurship and businesses” (AU-DPF, 2022, p.18).*

The problem the framework aims to solve is therefore framed as economical, looking at how African countries could also benefit from the financial results that are already being reaped by the firms dominating the global market in this regard. The idea regarding how the data market could create more revenues for governments and private enterprises, is central. Although the framework is a ‘high level policy’, it reflects the bias view and interests of those closer to making revenues through the data economy.

For Africans on the margins – women and girls in rural and suburban areas, illiterate, working in the informal and agricultural sector, internally displaced or migrant, as well as youth of both sexes, people of diverse genders, HIV positive –their data protection priorities might be different, not because they are not interested in establishing streams of revenues, but because they are too distant from the centre of decision-making, they experience more barriers than their male counterparts to benefit from the digital economy and because they are lived experience of digital citizenship touches on other areas that reflect legislative and policy silences. Around 30% of business in Africa are owned by women, this number reduces drastically when it comes to African tech start-ups owned by women, a mere 9% in 2016 (Porfido and Marks, 2020). The numbers are slightly more promising in Nigeria, with 15% of Tech start-ups owned by women and in Kenya where women accounted to 25% of Tech start-up co-founders (Porfido and Marks). For marginalized Africans who are affected but are not likely to benefit directly from datafication and digitalization, the framing of the problem would be more towards issues of effective protection of digital citizen and human rights (not only as consumers and entrepreneurs); addressing legislative vacuums such as protection for digital Gender-based Violence (GBV); control and co-ownership of data sets they have contributed to as well as options to opt out of data sets; and even boundaries to be able to decide if to adopt certain technologies or not.

If data is expected to produce economic value and “establish new revenue streams”, profit disguised as public good seems to be the goal. A focus on the dividends of the data economy is not bad, however, one of the challenges of this framing of the problem regarding data protection policy is when public sector decision-making is expected to function according to a similar logic. Data is expected to contribute to public benefits, for instance, by enabling “the data in Africa to realize the value of data in public sector decision-making, planning, and monitoring and evaluation” (AU-DPF, 2022, p. 5). According to the World Bank (2021b)

*Public sector data can have a transformational role in development and efforts to reduce poverty. Amongst many fruitful uses, data can be used to increase access to government services, prepare for and respond to emergencies, target resources and foster the inclusion of marginalized groups, save money and resources in policy implementation and service delivery, monitor progress and track performance, increase accountability, and empower individuals (as cited in Jolliffe, et al., 2023, pp. 1-2).*

This is framed mainly under the narrative of efficiency of public resource allocation, which unfortunately, in countries under the structural adjustment regime imposed by the International Monetary Fund (IMF) and the World Bank (WB), efficiency is usually correlated with a shrinking state. A reduction of the state in terms of the people it employees and in terms of the services it provides to citizens. Tight monetary policies imposed by the



IMF and the WB resulted in raised interest payments on government debt at the expense of social spending (Kousari, 2002). When services such as health and education are reduced, it does not mean that the services are no longer necessary, but simply that the state will no longer pay for them. And these responsibilities are transferred to the communities (where such ties still exist) and families, and, particularly, to the women and girls in the families, who are socially assigned the caring responsibilities. In a study to understand the relationship between structural adjustment policies and poverty reduction in Africa, Kousari (2002) showed how with anti-poverty policies in the education and health sectors, “as in structural reforms, here too there is a tendency to adhere, to the maximum extent possible, to market principles in the provision of education and health care, relying on across-the-board user fees except for primary education and basic health services” (p. 63). Therefore, who will pay the bill for the cost of social services that the state will save through efficiency, will most probably be marginalized women and girls already discriminated by multiple intersecting factors such as caste, ethnicity, age, area of residence, literacy, HIV status, and others.

Furthermore, currently some of the digital political participation is through corporatized social platforms, such as Facebook, Twitter, etc. and with the ambition to shift public services to partial or completely online, the risk of any enabled political or civil participation being subject to the profit interests of the platforms where digital citizenship occurs is not irrelevant. Even the idea of government decisions based on biased algorithms, but that allow it to be ‘efficient’ is problematic for digital citizenship. The notion of public good, when these are facilitated through profit-oriented systems, or decided upon through algorithms would need to be redefined and clarified. In this sense, the framework’s focus on the economic participation part of digital citizenship, leaves it short of going deeper into other data protection concerns that might reenforce systemic discrimination.

The Framework recognizes the importance of digital infrastructure for the data economy and to build it recommends the deployment of broadband, enabling ICT architectures, and creating trustworthy digital ID systems through public-private partnerships to spur entrepreneurship and public data reuse. It also encourages Member States to engage stakeholders at all levels to ensure organizations use data to further the public good.

The lack of the right infrastructure to control and harness the benefits of the data-driven economy is well established in the Framework. It offers a great deal of recommendations to create such infrastructure and build capacity to operate in and benefit from a data-driven economy. Therefore, availability and accessibility of quality data in the continent is critical. To address this need, besides developing the necessary infrastructure the Framework also suggests reusing and repurposing data as alternatives to non-availability of big data. Although some of this infrastructure is being developed as illustrated in chapter 4.1.1 above, the pace and capacity to develop these varies between the different countries, the Framework focuses its recommendations on national level actions to build “domestic data infrastructure” (AU-DPF, 2022, p.25) and not on regional level data infrastructure which might allow the countries with less resources to benefit from those with better resources, or even from resources the African Union could raise for those purposes. Cross-border data flow could be an entry point to build shared regional digital infrastructures. In relation to infrastructure, the Framework, also lacks clarity on what type of non-personal data can be shared and particularly on data regarding gender as well as what type of gendered impact of the digital economy statistical agencies and other stakeholders should collect.

The Framework acknowledges the “discriminatory automated (algorithm-based) decision making risk resulting from invisibility, underrepresentation of categories of people

in databases, and algorithm modelling shortcomings” (AU-DPF, 2022, p. 13). However, it makes no reference to how the gender gap for example can be addressed in the data sets and process, nor the implications of a narrative on efficiency of public resources on ensuring marginalized communities also benefit from STEM and Information and Communication Technology (ICT) training. And that they benefit from a way that is not exploitative. Currently women face different types of exclusion in the digital sector, they are underrepresented as tech entrepreneurs and as STEM students, but they also lack “the education that promotes general digital literacy”. In 2020, UNESCO estimated that only 30% of women in Sub-Saharan Africa receive STEM training and participate in the tech sector and that “fewer girls than boys possess the critical digital skills needed to compete in the modern labour force” (as cited in (Porfido and Marks, 2020, p. 3). Not having equal access to digital skills will prevent women and girls of various intersectionalities to benefit from the dividends of the digital economy.

On the other hand, there are no doubts of the potential benefits of using data when, quality data is available and used cautiously, when infrastructure to store and share the data is created in order to develop technology to improve key social sectors such as healthcare, agriculture and education. The Framework indicates the aim to use data-drive decision-making in the public sector, due to reported efficiency in service delivery. However, it does not offer enough recommendations on how to curtail the negative consequences of algorithm-based public sector decision-making. There is extensive literature demonstrating how algorithmic decision-making by governments has served to police the poor or to reinforce historical ethnic, class, racial and gender-based discrimination, that could be drawn from. For example, under Kenya’s project to introduce national biometric Identification Documents (ID) there was the risk of excluding minorities who have traditionally been discriminated and lack a national ID card or birth certificate in order to benefit from the project (Birhane, 2020).

The Framework does not offer recommendations on how to address these types of risks nor on the role humans will play in controlling or at least in the relation between what the algorithm will determine and the public servant’s judgement. It also does not address the issue of ‘blind trust in technology’ which might place algorithmic decision above human decisions. Who and how will stop the technology if harm is being inflicted by its’ decisions, is not clear in the Framework. Nor if that is something that should be done. The lack of clarity regarding these issues risks mining the trust the Framework intends users and citizens have on digitalization. The Framework offers recommendations regarding how personal data is processed; however, this does not necessarily include ‘explainability’ of how the algorithms created with the data provided, will make decisions, that will impact negatively or positively the data subjects.

Another challenge related with this framing of the problem is regarding who the Framework will benefit. From the onset, a focus on the economics of data benefits mainly the corporations involved and some governments. This does not guarantee a redistribution of the benefits among citizens. Those who are disproportionately impacted by algorithmic based digital citizenship are less protected through this Framework, or at least, not sufficiently acknowledged. There is no mention of how to debias data and algorithms and as illustrated in previous chapters, biased algorithmic decision making has devastating outcomes for those already marginalized. Women, girls, in their different intersections of social class, caste, ethnicity, ability/disability, youth of binary and non-binary genders living in rural areas, in sub-urban areas, with limited literacy, limited access to social services such as sexual and reproductive health, electricity and water, to mention a few of the intersections that enforce their discrimination, would benefit with limitations from what the Framework attempts to

protect, because they are not only negatively impacted by irresponsible and unlawful use of their personal data, but also by the results of a digital economy constructed on biased data.

#### 4.2.2 *Disembodied data*

The Framework considers data as being “global in nature”, particularly in the context of regulations where they are foreseen as having “cross-border implications”, and in acknowledgement of regulatory precedence coming mainly from “data-rich and data-intensive developed countries” (AU-DPF, 2022, p.1).

This view of data seems to treat it as something separate from the people who generate it. The data that generates the profits and economic benefits envisioned for the continent, generates resources, mainly through users sharing of their data or using the systems and applications designed to function on such data. Therefore, this data, that is used to power algorithmic based systems, either in the private or public sector, cannot be conceived independently of its users, who are also generators of data. The Framework is innovative in raising the issue of data justice to also protect collective rights, as well as socio-economic rights and to be able to centre data governance in view of public value. Considering collective rights acknowledges the “communal dimension of the African human rights system by which the rights of peoples figure prominently” although the Framework does not specify what a communal conception of data protection entails (Yilma, 2022, p. 4). Not enough acknowledgement is made of this reality. And the beneficiaries of what would be generated from this economy, at least in terms of the profits, are not the users and generators of data.

This resembles exploitative models established through colonialism and capitalism where, bodies had to be constructed as inhuman, to justify hierarchizations and consequent exploitation of peoples of and in colonized lands. The trust in the “transformative potential of data to empower African countries; improve people’s lives; safeguard collective interests; protect (digital) rights; and drive equitable socio-economic development”, expressed in the Framework’s vision (AU-DPF, 2022, p. 4) is ‘big’ enough to justify the means to achieve it. Like the exploitation of natural resources such as cobalt, gold or lithium in the global South, where the value of the revenues associated with their extraction, framed them as a potential for ‘development’ or ‘empowerment’, independently of it benefiting either the people mining them nor the people living in the areas where these minerals are found. The people, giving their health and life mining these resources are dehumanized, and the people, the resources, and the land where they are found are objectified, and this process cumulatively ‘normalizes’ their exploitation. For instance, in the Democratic Republic of Congo where, 50% of the world’s cobalt produced, the operations by mining companies, particularly in the context of expansion to respond to growing demand for cobalt and copper, are resulting in communities being forced from their homes and farmland (Amnesty International, 2023) and miners, including children, face the risk of long term health problems and a high risk of fatal accidents (Amnesty International, 2016).

However, data has a human face. There is a person with feelings, emotions, fears, dreams, behind each data point. The data that gets collected only reflects a fraction of the human behind the data point. It is not possible to incorporate the multitude of complex cultural, moral, political, and economic issues reflected in history and complex in one data point. So “which data gets collected and used, how it is cleaned and processed, what we decide to optimize, and which metrics we use to measure success - each of this is a human decision informed equally by our computational knowledge and our human intuition” (Celis, 2021). And this reduction of complex social problems into “measured and quantified matters

that can be ‘fixed’ with the latest algorithm” (Birhane, 2020, p. 397) contributes to the disembodiment of the person behind the data point. As Birhane summarizes in the article titled Algorithmic Colonization of Africa,

*The reduction of complex social problems to a matter that can be “solved” by technology also treats people as passive objects for manipulation. Humans, however, far from being passive objects, are active meaning seekers embedded in dynamic social, cultural, and historical backgrounds (Birhane, 2017, as cited in Birhane 2020, p. 397).*

In my perspective, the Framework does not address enough the disembodiment of data in the processes it envisions Africa benefiting from the data economy. It acknowledges the risk of biased data, but in a simplistic perspective. It does not for example, address the biased data related to the fact that it is impossible to include everything that represents a certain person at a given moment in a data point. The predictability expected of algorithm-based decision making is not compatible with the reality of humans’ dynamic and active lives. The Framework also mentions the need to respect human rights in data governance and for all stakeholders working with data to develop codes of ethics that allow to mitigate harm and reduce risks. It also recommends developing inclusive ethic codes that are responsive to the African context and integrate the voices of those that will be affected including underrepresented communities and to take note of gender considerations, ensuring they reduce harm and exclusion to women and girls. This is commendable. The Framework also recommends engaging with human rights bodies to assess data codes of ethics according to existing frameworks. However, national human rights commissions are not included in the stakeholder mapping, nor women’s human rights groups, who could support in the framing of the code of ethics within the pressing privacy and data protection issues relevant to different groups of women.

Therefore, if we acknowledge that there is a person behind every data point, then data, unlike natural resources, is produced everywhere, and perhaps by every digital citizen. This offers a possibility to rethink how the benefits of data economies are equitably redistributed among a wider range of stakeholders including the users or citizens producing it. The issue of ownership or custodianship of data is of interest to the Framework, albeit from a restrictive approach to stakeholders, that does not include the users. The framework further, addresses some related risks:

*Multilateral, plurilateral and bilateral trade pressures to enable data flow with few restrictions are matched with pressures to concede intellectual property rights over data so that African countries face the prospect of data being both exploited and appropriated (AU-DPF, 2022, p.15).*

The envisioned solution to this, is a “coordinated action by and for Africa” in order to “collectively release and unlock the huge transformative potential of data to develop an inclusive and sustainable digital economy and modern society in Africa” (AU - DPF). However, more concrete recommendations of how to address these challenges are missing, as well as a clear definition of what a modern society in Africa looks like. This absence pauses the risk of an adoption of dominant values and ways of seeing the world from the global North, as symbols of modernity.

Essentially, the approach to data found in the Framework is of data as a passive resource that can be extracted, used and disposed, based on the economic and social development interests of the ‘owners’ and managers of the data. For example, the Framework supports regulatory frameworks and contextually relevant policies to facilitate among other



objectives, “creating value from responsible data use, fostering sustainable, equitable growth, and enhancing shared prosperity from the data economy” and “improved distribution of opportunities both for the use of data services and for production and data driven-value creation within and between countries” (AU-DPF, 2022, p.18).

The benefits are therefore, externalized from the people, the users behind the data and the ones who will make the data monetizable. The Framework considers alternative ways to data ownership such as data trusts and stewardships. These are entry points to consider alternative approaches to data ownership or co-ownership between the users and the managers of data and to rethink the redistribution of the benefits of the data economy.

And lastly, as Celis (2021) reiterates, biased data is of concern at the input phase when creating algorithms, but at the output phase as well. As AI is used, it generates more data, also biased, into the algorithm. So, as digital citizens, the AI products we consume, affect the information to which we have access. This becomes more complex when governments will depend on those algorithms to offer public services. As Birhane (2020) explains, “the collection, analysis, and manipulation of data potentially entails monitoring, tracking, and surveilling people. This necessarily impacts people directly or indirectly whether it manifests as change in their insurance premiums or refusal of services” (p. 398). And the impact of these models in societies is one of the biggest silences in the Framework, “considerations around the wellbeing and welfare of the individual user, the long-term social impacts, and the unintended consequences of these systems on society’s most vulnerable are pushed aside” (Birhane, 2020).

The Framework pays detailed attention to personal data protection, however from an extractivist and limited perspective, where the profitability and efficiency benefits of the data economy, receive more attention than the effects of algorithm-based systems on individuals and communities influenced by a disembodiment of data approach. On the other hand, although the Framework does not define personal data, there are also no indications that it accommodates more subtle ways that personal data is collected such as through ‘data exhausts’ which are “all the trail of information or ‘consumer data’ the people create as they surf the internet and interact with websites and services” (Azfar, 2021, para. 5), which include information regarding shipping addresses, services signed up for, pages browsed, including personally identifiable information a user might not be aware that it is being collected (Azfar). This source of data is widely used to target advertisements to users but can also be used for political and other types of manipulation through the type of information and services that is made available for each individual digital citizen according to what they do online.

#### ***4.2.3 Potentially colonial-by-design.***

The Framework’s intent to “realize the value of data in public sector decision-making, planning, and monitoring and evaluation”, without problematizing what this means, can perpetuate exclusion, as well as the role of the state as the patriarch, because power relations both within nation-states and across borders are not questioned.

The Framework acknowledges the existence of market pressure “imposed by oligopoly firms”, such as Facebook, Apple, Amazon, Microsoft, or Google. Particularly in relation to their trading competitive advantage in data-driven digital markets and how that affects local competition and competitiveness of local ‘data economy’ players, at the global level (AU-DPF, 2022, p.1). However, to achieve the datafication of the economy, the Framework

suggests as one of the strategies, tapping into the nexus of public-private sectors partnerships. This is not surprising, and it reflects the status quo,

*AI technologies that aid decision-making in the social sphere are, for the most part, developed and implemented by the private sector whose primary aim is to maximise profit. Protecting individual privacy rights and cultivating a fair society is therefore the least of their concern especially if such practice gets in the way of “mining” data, building predictive models, and pushing products to customers. As decision-making of social outcomes is handed over to predictive systems developed by profit-driven corporates, not only are we allowing our social concerns to be dictated by corporate incentives, we are also allowing moral questions to be dictated by corporate interests (Birhane, 2020, p. 399)*

The deep trust in algorithm-based public sector decision-making and on the private sector as a partner to make that happen poses challenges for those mostly excluded from the equation. Additionally, if this will be done with the private firms positioned in the global North, as governments create enabling environments to allow for local private sector to flourish, the challenges already mentioned regarding the use of biased data, representing a way to see and experience the world by white, middle-class, young men in the global North, will not be easily avoided. Furthermore, the risks associated with using data that is not representative of the context, for example in health systems, might be exacerbated. The framework as it stands, offers minimum protection measures to avoid coloniality through the data used in building the systems it envisions for Africa, at least before data infrastructure in the continent is strengthened. There are no affirmative actions for algorithms to correct real life biases that prevent women from exercising their rights and benefiting equality from public resources.

Perhaps for this reason, prioritizing the creation of infrastructure is a key factor to achieve the framework's vision. As stated,

*foundational data infrastructure that facilitates data systems and allows for the sharing, gathering, and storing of big data, or the manipulation of existing data sources, will impact how governments are able to respond to the challenges related to data availability, quality and interoperability, and approach considerations related to legitimacy and public trust (AU-DPF, 2022, p.23).*

This is a legitimate concern, since most African countries lack such infrastructures, which include cloud services, big data or platformization. For example, “Nigeria, one of the more technically developed countries in Africa, imports 90% of all software used in the country. The local production of software is reduced to add-ons or extensions creation for mainstream packaged software.” (Knowledge Commons Brasil, as cited in Birhane, 2020, p. 396). So, progress in this area is slow and there is no indication of what should precede what, should the infrastructure be created before more data is collected, so that the ethical, fair and human rights principles envisaged are respected from the beginning?

In this regard, the framework assumes an approach of an inevitable route towards data economy. But is that so? Given the historic unequal position in any global market, it would seem reasonable for a country to decide to move in a different direction or at a pausing pace, to enter the market with a clear understanding of how much they are ‘raw material’ and what they would like to do about it. The Framework does not suggest any new rules for the global market that would turn the existing power dynamics that positions Africa as an exporter of raw material without any say in its price – for example who decides what is valuable, what is

personal data, whose ethics is relevant, etc. Or an approach to data justice that goes beyond the individual user to affect power imbalances in the ecosystems, by ensuring tech companies also make the data they collect through their platforms open and available for national data infrastructures.

Additionally, the Frameworks' concept of data infrastructure to make a digital economy plausible does not include three key aspects of systemic discrimination and unequal power relations, raw materials, labour, and impact of climate change effects. Although these may seem disconnected from the concept of data protection, an African centred approach to data protection and to data justice is incomplete if it is dissociated from the historically marginal positionality of the continent within the data ecosystem. A holistic approach to data approach includes looking at how the different material and digital elements of the data ecosystem affect in a gendered way those affected by it.

Raw materials such as cobalt, nickel, graphite are indispensable for the development of technology powered by data and the devices that will allow it to function in a digitalized world. Many of these are extracted from African mines, often in inhumane conditions, with disregard for safety conditions, with remuneration that is a minimum fraction of the cost of the mineral and impossible to move out of material poverty, or in areas affected by geopolitical conflicts caused by the scramble for these same resources. The Framework is silent about this issue and does not include any recommendations related to controlling the value and sharing of benefits of these minerals in the global market, and particularly with the people mining them.

The second area of silence is regarding exploitative work in the digital sector. The Framework refers to the aspiration of equitable economic growth several times, however it does not offer recommendations on how to allow for equitable distribution of remuneration and recognition in the sector, for example with the so called “ghost work” (Gray & Suri, 2019, as cited in Varon & Peña, n.d., p. 14) or “invisible labour” that powers digital technologies (Varon & Peña, n.d.). Like the socially assigned care work undertaken mainly by women and girls in Africa, neither remunerated nor acknowledged, in the tech industry, “labelling images and cleaning databases are manual work very often performed in unsavoury working conditions”. These working conditions are normally marked by “overwork, underpaid, with no social benefits or stability – very different from the working conditions of the creators of such systems” (Crawford, 2021, as cited in Varon & Peña, n.d., p. 14). As in relation to the continent's role in the global markets, the framework does not address this injustice, particularly in order to ensure when member states enter the data economy, it is not to reproduce these dynamics, or have women exploited in these roles and still celebrate a raising quota of women in STEM carriers. Besides, a link between the role of the tech companies operating in the continent and the building of digital skills is lacking.

The third area of silence, intertwined with the first two is the impact of digitalization on exacerbating the effects of climate change. Mining the minerals necessary for the digitalization of the world, often implies deforestation, water pollution and irresponsible and unsustainable disposal of mineral waste. On the other hand, an increased use of digital technologies implies an increase in energy consumption, both processes with greenhouse gas emissions (Leterme, 2020). Although the Framework argues that “benefits of cloud computing include reduced spending on energy consumption” (AU-DPF, 2022, p.24), there is evidence that the creation of data centres to store all the data being created by the growing digitalization will require high energy consumption. Leterme (2020), highlights that “digital technology alone is expected to consume 20% of the world's electricity by 2025 and to

account for 14% of greenhouse gas emissions by 2040, thus contributing to global warming”. The African continent is already disproportionately affected by the effects of climate change, and African women in particular carry the biggest burden. Women in the rural areas, specially, face challenges to perform their socially assigned roles as food producers and collectors of cooking wood and water. The consequences vary from having to walk longer distances and sometimes to unsafe areas to find water and wood, not being able to provide and suffering GBV.

The Framework also suggests a data approach “rooted in the local context” which is an important regard to increase relevance of such systems. The concept also lacks a problematization or at least an acknowledgement of local dynamics’ sources of discrimination. Some answers are still unanswered, such as: what does ‘local’ mean in the context of diverse ethnicities and cultures in almost every African country? Framing the notion of local in the context of the nation-state, a product itself of coloniality, will certainly keep many collectives on the margins of this conversation and any benefits of it. Unanswered questions include, how could discriminatory and historical biases existing in Africa’s countries be addressed? How will algorithm-based decision-making by governments not police the poor, political opposers and other marginalized groups or not create surveillance states as a whole? How could gender inequality in all its intersections be addressed in the way that the benefits will be distributed? How will the data-driven systems value indigenous ways of knowing? Will ‘science’ and ‘technology’ be the ‘gods’ in this transition? What about knowledge held particularly by women regarding health and agriculture for example, will there be requirements for these to be consulted and included in the data somehow?

And finally, regarding public sector algorithm-based decision-making and informed consent. The Framework acknowledges the contextual limitations of ensuring users give their informed consent to services and products offered by stating that “with significant numbers of people digitally and otherwise illiterate in Africa, digital mechanisms of informed consent may not be sufficient to protect the rights of people” (AU-DPF, 2022, p.28). And it constructively suggests exploring others forms of consent such as collective consent as discussed above. However, it makes no reference to how the requirement of consent itself in a context where there is no algorithm transparency could exclude citizens from the social services provided. There are no recommendations, on how to ensure citizens who do not consent to services provided in this way are not excluded from the benefits they are entitled to. If consent for example to share certain types of data will be a pre-condition to benefit from public services, this raises questions on how much this can be considered free and informed consent. This risk should not be disregarded, and the Framework stops short of addressing it.

## 5. Conclusion

This thesis is an exploratory attempt at analysing the African Union Data Policy Framework with feminist and decolonial lenses. It is by no means a comprehensive analysis, as there are many more issues than the ones I raised, to be better understood and deconstructed.

That said, I would like to start by acknowledging that an African Union Data Policy Framework, particularly in the context of growing digitalization of citizenship, is not a luxury, it is a pressing need, although this is not a binding document. The Framework is significant because it centres part of the proposed solutions on data protection that is recognized as the “backbone” of any data framework, while at the same time advancing ideas adaptive to the African context such as the prioritization of collective privacy rights, data



justice and data ethics. The Framework is designed to responsibly leverage the power of data for economic growth and public value and to facilitate the creation of an African Digital Single Market. In this regard, an harmonization of regional and continental digital policies is also expected, while respecting human rights.

However, is this the policy that Africa needs? My response is a clear and loud no.

A policy framework that is informed by the idea of ‘catching up’ with the digital economy train, does not allow for creativity and locally informed measures to transform the existing socio-economic structures that limit many Africans from living the life of their choice and from remaining in the ‘margins’ of any global economy. Besides, it adopts a narrow view of digital citizenship, more as consumers. The Framework includes all the ‘right’ language such as local context, human rights, justice, ethics, privacy, but these have not been sufficiently contextualized to mean something substantive in the lives of most Africans in the context of asymmetric power relations in the digital economy.

To acknowledge the existence of systemic discrimination is not enough, because the Framework does not offer recommendations on how to overcome those. Data governance at every level should protect the rights of all people, including the most marginalized and those who have the least voice in the political process. This policy Framework lacks guidance on how to transform historical systems of discrimination that maintain the African continent and its peoples on the margins of global economies. It does not offer recommendations on how to create alternative systems that allow African countries to digitalize in their own terms, that is in a way that benefits most Africans, and a system that allows African countries to approach digitalization as an option and not as a prerequisite for socio-economic transformation.

The Framework is silent on key issues that negatively affect women, the youth, and a wider diversity of marginalized communities in the continent. Its focus on reaping the economic dividends of the digital economy, does not incorporate the lessons learned from Africa trying to catch up with the other industrial revolutions and can only benefit a few integrated in the formal economy and who can be useful for the global North’s digital economy. The Framework lacks an approach on systemically transforming the economic system, by addressing issues such as exploitation of labour and natural resource, the digitalization’s effect on climate change, disembodiment of data as a strategy to exploit and control nor on sustainable technological disposal. And in this sense, it reproduces colonial dynamics.

Regarding digital citizenship, the Framework also falls short to clearly address the negative effects of algorithm-based decision making, particularly in relation to access to public services. The risk of citizens being profiled, policed, prevented from exercising their rights and benefiting from social services and benefits they are entitled to, is largely overlooked.

For these reasons, the Framework has limited potential to be social transformative and change unjust power dynamics that get reproduced at all societal interactions. For this Framework to be useful to regular Africans and particularly to women, youth, and other identity marginalized communities, it needs to be reviewed with feminist and decolonial lenses, for it to address the systemic issues that impede African countries and their peoples to live lives free from exploitation, whether in the digital or analogue world.

For this the Framework needs to adopt a holistic approach to data to create a new framework for defining, valuing, managing, sharing, owning, and distributing the raw



material that is powering the digital economy. It needs to define equitable growth in a manner that goes beyond profit and multilateral economic organizations' concept of efficiency, so that the most marginalized and those impacted by gendered effects of a discriminatory data ecosystem are protected and given an opportunity to thrive.

## References

- African Union Development Agency – AUDA-NEPAD. (2023, March). Effective delivery of vaccines delivery in Africa using drone technology. <https://www.nepad.org/blog/effective-delivery-of-vaccines-africa-using-drone-technology> (consulted on 10 February 2024).
- African Union. (2015, September). Agenda 2063 – The Africa we want. Framework document. [https://au.int/sites/default/files/documents/33126-doc-framework\\_document\\_book.pdf](https://au.int/sites/default/files/documents/33126-doc-framework_document_book.pdf)
- Amnesty International. (2016, January). This is what we die for” human rights abuses in the Democratic Republic of the Congo power the global trade in cobalt. Index Number: AFR 62/3183/2016. <https://www.amnesty.org/en/documents/afr62/3183/2016/en/>
- Amnesty International. (2023). Powering Change or Business as Usual? Forced Evictions at Industrial Cobalt and Copper Mines in the Democratic Republic of the Congo. Index: AFR 62/7009/2023. First published in 2023 by Amnesty International Ltd Peter Benenson House, 1 Easton Street, London WC1X 0DW, UK. <https://www.amnesty.org/en/documents/AFR62/7009/2023/en/>
- Azfar, K. (2021, May 13). All you need to know about cyber exhaust and ways to reduce it. Blog: ipleaders. <https://blog.ipleaders.in/need-know-cyber-exhaust-ways-reduce/>
- Bacchi, C. (2012). Introducing the ‘What’s the Problem Represented to be?’ approach. In A. Bletsas and C. Beasley. (2012). Engaging with Carol Bacchi: Strategic interventions and exchanges (pp. 21-24.). University of Adelaide Press.
- Byjesh, K. (2014). An exploration of soil carbon sequestration potential in Bukoba district, north-west Tanzania. Research gate
- Birhane, A. (2020, August). Algorithmic colonization of Africa. *Scripted, Volume 17, Issue 2*. PP. 389 – 409. DOI: 10.2966/scrip.170220.389
- Buolamwini, J & Gebru, T (2018). Gender shades: Intersectional accuracy disparities in commercial gender classification. *Proceedings of Machine Learning Research* 81:1–15, 2018.
- Ceia, V., Nothwehr, B., & Wagner, L. (2021). Gender and technology: A rights-based and intersectional analysis of key trends. *Oxfam Research Backgrounder Series*. <https://www.oxfamamerica.org/explore/research-publications/gender-and-technology-a-rights-based-and-intersectional-analysis-of-key-trends/>
- Celis, E. (2021). CHAPTER 3: Debiasing the algorithm. Feminist AI. Retrieved from <https://feministai.pubpub.org/pub/debiasing-the-algorithm>
- Cfr. Virginia Tech, India, (n.d). Top 10 artificial intelligence companies to work for in 2021. <https://vtindia.in/top-10-artificial-intelligence-companies-to-work-for-in-2021/>
- Collins, P. H. (1998). The social construction of Black feminist thought. In K. A. Myers, C. D. Anderson, & B. J. Risman (Eds.), *Feminist foundations: Toward transforming sociology* (pp. 371–396). Sage Publications, Inc. (This reprinted article originally appeared in ( Signs: Journal of Women in Culture and Society, 1989, Vol 14[4], pp. 745–773))

- Education Sub Saharan Africa- ESSA. (2021, April). The Gender gap in universities and colleges in sub-Saharan Africa. <https://essa-africa.org/node/1421> (accessed on 14 February 2024)
- Effective and Inclusive Diplomacy (DiPLO). (n.d.) States of internet access and connectivity in Africa. <https://www.diplomacy.edu/resource/report-stronger-digital-voices-from-africa/internet-access-connectivity-africa/> (accessed on 14 February 2024)
- European Training Foundation. 2018. Guide to policy analysis. <https://www.etf.europa.eu/en/publications-and-resources/publications/guide-policy-analysis>
- Fernández-Prados, J.S.; Lozano-Díaz, A.; Ainz-Galende, A. (2021). Measuring digital citizenship: A comparative analysis. *Informatics* 8, 18. <https://doi.org/10.3390/informatics8010018>
- Fournier-Tombs, E. and Castets-Renard, C., (2021, December 7). Algorithms and the propagation of gendered cultural norms. Forthcoming for publication. In: IA, Culture et Médias (V. Guèvremont and C. Brin, eds.), Presses de l'Université de Laval (forthcoming in French). <http://dx.doi.org/10.2139/ssrn.3980113>
- Gadzala, A. (2018, November). Coming to life: Artificial intelligence in Africa. Issue brief. Atlantic Council Africa Centre. <https://www.atlanticcouncil.org/wp-content/uploads/2019/09/Coming-to-Life-Artificial-Intelligence-in-Africa.pdf>
- Global Partnership on AI. (2022). The Role of data in AI. <https://gpai.ai/projects/data-governance/role-of-data-in-ai.pdf>
- Gurumurthy, A. and Nandini Chami, N. (2017, May). A Feminist action framework on development and digital technologies. Association for Progressive Communications – APC. <https://www.apc.org/sites/default/files/FeministActionFrameworkOnDevelopmentAndDigitalTechnologies.pdf>
- Hankivsky, O. (Ed.). (2012). *An Intersectionality-Based Policy Analysis Framework*. Vancouver, BC: Institute for Intersectionality Research and Policy, Simon Fraser University. <https://equityhealthj.biomedcentral.com/articles/10.1186/s12939-014-0119-x>
- Hicks, S. (2023, October 1). Critical thinking about policy: Intersectional feminist policy analysis in use. [https://ritsumei.repo.nii.ac.jp/record/2000410/files/ps\\_31\\_1\\_hicks1.pdf](https://ritsumei.repo.nii.ac.jp/record/2000410/files/ps_31_1_hicks1.pdf)
- International Telecommunication (ITU). (2021). Measuring digital developments – Facts and Figures. ITU Publications. <https://www.itu.int/en/ITU-D/Statistics/Documents/facts/FactsFigures2021.pdf>
- Jæger, B. (2021). Digital citizenship – A Review of the academic literature. *dms – der moderne staat – Zeitschrift für Public Policy, Recht und Management*, 14(1-2021), 24-42. <https://doi.org/10.3224/dms.v14i1.09>
- Jolliffe, D. et al. (2023, April). What Makes Public Sector Data Valuable for Development? The World Bank Research Observer © 2023 International Bank for Reconstruction

and Development / The World Bank. Published by Oxford University Press  
<https://doi.org/10.1093/wbro/lkad004>

- Kigoto, W. (2023, November). The right to HE is not yet a reality in Africa - Report. University World News – Africa Edition.  
<https://www.universityworldnews.com/post.php?story=20231121130700884#:~:text=Gross%20enrolment%20rates&text=The%20issue%20is%20that%20while,rate%20currently%20stands%20at%209.4%25>. (Accessed on 14 February 2024)
- Kousari, K. (2002, August). Structural adjustment and poverty reduction in Africa. A lack of rapid, broad-based growth lies at the heart of Africa's economic problems. Can poverty reduction strategies help? In: UNCTAD (2002, August) From Adjustment to Poverty Reduction: What is New? (UNCTAD/GDS/AFRICA/2, August 2002).  
<https://library.fes.de/pdf-files/gurn/00111.pdf>
- Kypraiou, S. (2021). What is fairness? Feminist AI. Retrieved from  
<https://feministai.pubpub.org/pub/what-is-fairness->
- Luursema, I. (2023, February 19). "The African Union: Achievements, challenges, & the future of Africa". TheCollector.com, <https://www.thecollector.com/african-union/>.
- Mansfield, K.C., Welton, A., & Grogan, M. (2014). Truth or Consequences: A feminist critical policy analysis of the STEM crisis. *International Journal of Qualitative Studies in Education*, 27(9), 1155-1182.  
<https://doi.org/10.1080/09518398.2014.916006>
- McPhail, B. (2003, March). A Feminist policy analysis framework. *The social policy journal*. S-39-61. DOI: 10.1300/J185v02n02\_04
- Melamed, C. (2023, November). Data for Development = AI for Development. Global Partnership for sustainable development. <https://www.data4sdgs.org/blog/data-development-ai-development#:~:text=Data%20is%20the%20raw%20material,is%20the%20internal%20combustion%20engine>.
- Ministry of Information, Communications, and the Digital Economy. (2019, July 25). Report on distributed ledger and artificial intelligence launched. Republic of Kenya.  
<https://ict.go.ke/report-on-distributed-ledger-and-artificial-intelligence-launched/> (consulted on 14 February 2024)
- Nibo. (2020, February 15). Desencriptando el capitalismo. <https://niboe.info/blog/desencriptando-el-capitalismo>
- Omnia Health Magazine (2023, September). Rise of drone delivery service for medical supplies in Africa. <https://insights.omnia-health.com/management/rise-drone-delivery-service-medical-supplies-africa> (consulted on 10 February 2024)
- O'Neil, C. (2017). *Weapons of Math Destruction: How Big Data Increases Inequality and Threatens Democracy* London: Penguin Books
- Oyeronke, O., (2002). Conceptualizing gender: The Euro- centric foundations of feminist concepts and the challenge of African epistemologies. *Jenda: A Journal of Culture and African Women Studies* ISSN: 1530-5686 Vol. 2, No. 1

- Pangrazio, L., & Sefton-Green, J. (2021). Digital rights, digital citizenship and digital literacy: What's the Difference? *Journal of New Approaches in Educational Research*, 10(1), 15-27. doi: 10.7821/naer.2021.1.616
- Pichardo, O., (2014). Hacia la construcción de un feminismo descolonizado. In, Miñoso, Y, Correal, D. & Muñoz – Popayán, K. (eds), (2014). *Tejiendo de otro modo: Feminismo, epistemología y apuestas descoloniales en Abya Yala* (pp. 325-334). Editorial Universidad del Cauca.
- Porfido, D. & Marks, Z. (2020, October). Policy Brief. Women and the digital economy in Africa. Harvard University Center for African Studies.  
[https://africa.harvard.edu/files/african-studies/files/women\\_entrepreneurship\\_in\\_africa\\_policy\\_brief\\_-\\_digital\\_economy\\_final.pdf](https://africa.harvard.edu/files/african-studies/files/women_entrepreneurship_in_africa_policy_brief_-_digital_economy_final.pdf)
- Quijano, A., (2009). Colonialidade do poder e classificação social. In, Santos, B., & Meneses, M., (orgs.) (2009). *Epistemologias do Sul*. Edições Almedina, S.A.
- Ruiz García, S. (2022). Feminist policy and platform economy: insights, methods, and challenges. *Internet Policy Review*, 11(1). <https://doi.org/10.14763/2022.1.1633>
- Saltz, J. (2023, October 6). What is the AI life cycle? Data Science Process Alliance.  
<https://www.datascience-pm.com/ai-lifecycle/>
- Smith, M. and S. Neupane (2018). *Artificial Intelligence and Human Development. Toward a Research Agenda* White Paper. IDRC. <https://idl-bnc-idrc.dspacedirect.org/handle/10625/56949>
- Statista. (2023, April 28). Number of active technology start-up hubs in Africa as of 2019, by country. <https://www.statista.com/statistics/1294785/number-of-active-tech-hubs-in-africa-by-country/#:~:text=As%20of%202019%2C%20more%20than,78%20and%2056%20hubs%2C%20respectively.> (consulted on February 15, 2024)
- Statista. (2024, January 5). Proportion of selected age groups of world population and in regions in 2023. <https://www.statista.com/statistics/265759/world-population-by-age-and-region/> (consulted on 14 February 2024)
- Statista. (2024, January 10). Internet Usage in Africa – statistics & facts.  
<https://www.statista.com/topics/9813/internet-usage-in-africa/#topicOverview>
- Towes, R. (2021, June). What artificial intelligence still can't do. Cfr. Forbes. <https://www.forbes.com/sites/robtoews/2021/06/01/what-artificial-intelligence-still-cant-do/?sh=7df543c366f6>
- Lewis, J. E., (Ed). (2020). Indigenous protocol and artificial intelligence position paper. Honolulu, Hawai'i: The Initiative for Indigenous Futures and the Canadian Institute for Advanced Research (CIFAR). DOI: 10.11573/spectrum.library.concordia.ca.00986506
- United Nations Conference on Trade and Development - UNCTAD. (2019). Digital Economy Report 2019. Value creation and capture: Implications for developing countries. [https://unctad.org/system/files/official-document/der2019\\_en.pdf](https://unctad.org/system/files/official-document/der2019_en.pdf)



- World Economic Forum. (2019, September). Africa E-commerce Agenda – A Roadmap for Action. [https://www3.weforum.org/docs/WEF\\_Africa\\_EComm\\_EN.pdf](https://www3.weforum.org/docs/WEF_Africa_EComm_EN.pdf)
- World Economic Forum. (2022, July). Education: Girls are catching up with boys in Sub-Saharan Africa. <https://www.weforum.org/agenda/2022/07/education-africa-girls-boys-gender-school/> (accessed on 14 February 2024)
- Yilma, K. (2022, October 1). African Union's Data Policy Framework and Data Protection in Africa. *Journal of Data Protection and Privacy*, Vol. 5, No. 3. <http://dx.doi.org/10.2139/ssrn.4253828>

## Appendix A

### Definitions of the six phases of the AI cycle

#### **Problem Definition**

This is where the journey begins. It involves defining the problem to be solved or the opportunity to be explored using AI. It's a crucial stage that sets the direction for the entire project. Having a clear, well-defined problem helps guide data collection, model development, and ultimately, the successful implementation of the solution. This is where the role of an AI product manager can be useful.

#### **Data Acquisition and Preparation**

After identifying the problem, the next step is to collect and prepare data. AI and machine learning algorithms need data to learn, so this stage involves gathering relevant data and preparing it for use. This preparation may involve cleaning the data, dealing with missing values, or transforming the data into a format suitable for the chosen AI models. While the least glamorous, this can be the most time-consuming phase of the AI life cycle.

#### **Model Development and Training**

This phase involves developing the AI model that will solve the defined problem and training it with the prepared data. This stage is iterative, often involving multiple rounds of model development and refinement based on the model's performance during training.

#### **Model Evaluation and Refinement**

Once the model has been trained, it must be evaluated to see how well it performs. This involves testing the model on unseen data and analyzing its predictions. If the model's performance is not satisfactory, it's refined and tweaked. This could mean adjusting the model's parameters, changing the model's architecture, or even returning to the data acquisition phase to gather additional data.

#### **Deployment**

Once the model is performing satisfactorily, it is deployed to a production environment where it can start solving real-world problems. Deployment might involve integrating the model with existing systems, creating an application or service that uses the model, or leveraging the insights via an offline context such as a report to management.

#### **Machine Learning Operations**

Most of the time, after deployment, the model will need to be maintained and updated. In this machine learning operations phase, the team monitors the model's performance to ensure it's still working as expected, updating the model with new data, or refining the model based on feedback from its users.

Source: Saltz (2023)

## Appendix B

### Intersectional/ Feminist Policy Analysis Frameworks

McPhail's Feminist Policy Analysis Framework and the Intersectional/Feminist Policy Analysis Framework. Issues integrated by the latter are italicized.

	Issues for consideration	Guiding Questions	
		Feminist Policy Analysis Framework McPhail (2003)	Intersectional Feminist Policy Analysis Framework (Kanenberg, et. al. (2019))
A	Values	<ol style="list-style-type: none"> <li>1. Do feminist values undergird the policy? Which feminism, which values?</li> <li>2. Are value conflicts involved in the problem representations either between different feminist perspectives or between feminist and mainstream values?</li> </ol>	
B	State-Market Control	<ol style="list-style-type: none"> <li>1. Are women's unpaid labour and work of caring considered and valued or taken for granted?</li> <li>2. Does the policy contain elements of social control of women?</li> <li>3. Does the policy replace the patriarchal male with the patriarchal state?</li> <li>4. How does the policy mediate gender relationships between the state, market, and family? For instance, does the policy increase women's dependence upon the state or men?</li> </ol>	<ol style="list-style-type: none"> <li>1. <i>Does the policy oppress women who experience multiple levels of inequality due to their identity by creating a double bind for women with regard to the issue of labour? Are women limited and/or constrained in their participation in the labour market due to the policy (e.g., eligibility criteria, benefits, geographic limitations, wait lists)?</i></li> <li>2. Is the unpaid and/or underpaid labour and work of caring provided by <i>vulnerable groups</i> considered and valued or taken for granted? <i>Is there wage theft or subordination of workers transpiring?</i></li> <li>3. Does the policy contain elements of social control of <i>cisgender women, transgender women, nonbinary individuals, migrants</i>? <i>Are there other social locations of women that result in social control of their identity due to devaluing or creating of additional inequalities?</i></li> <li>4. Does the policy replace the patriarchal male with patriarchal state?</li> <li>5. How does the policy mediate gender relationships between the state, market, and family? For instance, does the policy increase <i>different groups of women's</i> dependence on the state or men? <i>If so, which women (race, ethnicity, class, sexual identity, gender identity/expression, religion, national origin, documentation status, migration status,</i></li> </ol>

			<p><i>carceral status, ability/disability, and more) are impacted most?</i></p> <p>6. <i>What is the policy's view of women as charity recipients vs. worker-citizens? Paying special attention to women's identities along lines of race/ethnicity, sexual identity, gender identity/expression, class, religion, national origin, documentation status, migration status, carceral status, ability/disability, or other identity categories.</i></p>
C	<p>Multiple Identities (Feminist Policy Analysis Framework)</p> <p>Intersectional identities (Intersectional Feminist Policy Analysis Framework)</p>	<p>4. How does gender in this policy interact with race/ethnicity, sexual identity, religion, nation origin, disability, or other identity categories?</p> <p>5. Are white, middle-class, heterosexual women the assumed standard for all women?</p> <p>6. Does the policy address the multiple identities of women? The multiple oppressions a single woman might face?</p>	<p>5. How do diverse and intersecting identities such as gender, race, ethnicity, sexual identity, gender identity/expression, class, religion, national origin, documentation status, migration status, carceral status, ability/disability, interact with other identity categories?</p> <p>6. Are white, middle-class, able-bodied, cisgender, heterosexual women the assumed standard for all women?</p> <p>7. How are systems of power and inequality (racism, classism, colonialism, cishnormativity, heterosexism) used to control or oppress those who occupy different social locations?</p> <p>8. Does the policy address the multiple identities of women? The multiple oppressions an individual woman may face?</p>
D	The Question of Equality	<p>1. Does the policy achieve gender equality? Are there equality of results or disparate impacts?</p> <p>2. Does the policy treat people differently in order to treat them equally well? Does the policy consider gender differences in order to create more equality?</p> <p>3. If the positions of women and men were reversed, would this policy be acceptable to men?</p>	<p>1. Does the policy achieve gender equality? <i>Is there equality of results or disparate impacts? Is there inequality between cisgender and transgender or nonbinary individuals?</i></p> <p>2. Does the policy treat people differently in order to treat them equally well? Does the policy consider <i>gender differences and resultant discrimination based upon race, ethnicity, sexual identity, gender identity/expression, class, religion, national origin, documentation status, migration status, carceral status, ability/disability in order to create more equality?</i></p> <p>3. If the positions of women and men were reversed, would this policy be acceptable to men?</p>
E	Special Treatment/Protection	<p>1. Does any special treatment of women cause unintended or restrictive consequences?</p> <p>2. Is there an implicit or explicit double standard?</p> <p>3. Does being labelled different and special cause a backlash that can be used to constrain rather than to liberate women?</p>	<p>1. Does any special treatment of women <i>and those who occupy different social locations (race, ethnicity, class, sexuality, etc.)</i> cause unintended or restrictive consequences?</p> <p>2. Is there an implicit or explicit double standard <i>regulating the lives of women who represent varied race, ethnicity, sexual identity, gender identity/expression, class, religion, national origin, documentation status, migration</i></p>

			<p><i>status, carceral status, ability/disability identities?</i></p> <p>3. Does being labelled different and special cause a backlash that can be used to constrain rather than to liberate women?</p>
F	Myth of Gender Neutrality	1. Does presumed gender neutrality hide the reality of the gendered nature of the problem or solution?	
G	Context	<p>6. Are women clearly visible in the policy? Does the policy take into account the historical, legal, social, cultural and political contexts of women's lives and lived experiences both now and in the past?</p> <p>7. Is the policy defined as a traditional "women's issue," i.e., "pink policy?" How is a policy that is not traditionally defined as a "women's issue" still a "women's issue"?</p> <p>8. Is the male experience used as a standard? Are results extrapolated from male experience and then applied to women?</p> <p>9. Have the programs, policies, methodologies, assumptions, and theories been examined for male bias?</p> <p>10. Is women's biology treated as normal rather than as an exception to male-defined norm?</p>	<p>7. Are women clearly visible in the policy?</p> <p>8. Does the policy consider the historical, legal, social, cultural, and political contexts of women's lives and lived experiences both now and in the past?</p> <p>9. <i>Does the policy make an "essential woman" visible (white, able-bodied, cisgender, and privileged) while leaving others in shadow? Coming out of theories of essentialism where 'essence' forms ideas around entire categories and becomes a way of making problematic blanket statements.</i></p> <p>10. <i>Is the white, cisgender, heterosexual, able-bodied male experience used as a standard? Are results extrapolated from male experience and then applied to women? How are the specifics of a variety of women's experiences centred to inform the policy (i.e. how are the intersections of a woman's identity brought to light in the policy?)?</i></p> <p>11. Have the programs, policies, methodologies, assumptions, and theories been examined for bias <i>at the intersections of gender race/ethnicity, sexual identity, cis-privilege, gender identity/expression, class, religion, national origin, documentation status, migration status, carceral status, ability/disability identity?</i></p> <p>12. Is women's biology treated as normal rather than as an exception to a male-defined norm? <i>Is womanhood not defined in biology? Are transgender women treated as equal to cisgender women?</i></p>
H	Language	<p>1. Does the language infer male dominance or female invisibility?</p> <p>2. Are gendered expectations and language encoded in the policy?</p>	<p>1. Does the language infer <i>white, cisgender, heterosexual, able-bodied</i> male dominance or female invisibility?</p> <p>2. Are gendered expectations and language encoded in the policy? <i>Are those expectations present cisnormative?</i></p> <p>3. <i>Is there acknowledgement of multiple identities (race/ethnicity, sexual identity, gender identity/expression, class, religion, national origin, documentation status,</i></p>



			<i>migration status, carceral status, ability/disability) present in the language of the policy?</i>
I	Equality/ Care and Rights/ Responsibility	<ol style="list-style-type: none"> <li>1. Is there a balance of rights and responsibilities for women and men in this policy?</li> <li>2. Does the policy sustain the pattern of men being viewed as public actors and women as private actors, or does the policy challenge this dichotomization?</li> </ol>	<ol style="list-style-type: none"> <li>1. Is there a balance of rights and responsibilities for women and men in this policy? <i>How are multiply marginalized groups rights and responsibilities acknowledged in the policy?</i></li> <li>2. Does the policy sustain the pattern of men being viewed as public actors and women as private actors or does the policy challenge this dichotomization? <i>Are there groups made invisible based on their race/ethnicity, sexual identity, gender identity/expression, class, religion, national origin, documentation status, migration status, carceral status, ability/disability identities within the policy?</i></li> <li>3. Are women penalized for either their role as wives, mothers, or caregivers or their refusal to adopt these roles?</li> <li>4. Does the policy pit the needs of women against the needs of their foetus or child(ren)? <i>Does the policy address the needs of certain women but not others? Are certain foetuses/children valued while others are deemed punishable?</i></li> <li>5. <i>Does the policy oppress women by creating double binds for women with regard to physical and psychological well-being?</i> <ol style="list-style-type: none"> <li>a. <i>Does the policy limit and or restrict women's access to healthcare and behavioural healthcare?</i></li> <li>b. <i>Do women experience restrictions to their children's access to healthcare and behavioural healthcare and/or restrictions to access to healthcare and behavioural healthcare for their families as a result of the policy?</i></li> <li>c. <i>Are there other social, economic, logistic, or environmental forces specifically related to the policy that create a double bind for women related to physical and psychological well-being?</i></li> </ol> </li> </ol>
J	Material versus Symbolic Reform	<ol style="list-style-type: none"> <li>1. Is the policy merely symbolic or does it come with teeth? Are there provisions for funding, enforcement and evaluation?</li> <li>2. Are interest groups involved in overseeing the policy implementation?</li> </ol>	<ol style="list-style-type: none"> <li>1. Is the policy merely symbolic or does it come with provisions for funding, enforcement, and evaluation?</li> <li>2. Are special interest groups involved in overseeing the policy implementation? <i>How do those in power over the policy implementation get to their position (hired, government appointment, etc.)? Do those</i></li> </ol>

		3. Is litigation possible to refine and expand the law's interpretation? 4. What is the strength of authority of the agency administering the policy? 5. Is there room to transform a symbolic reform into a material reform? How?	<i>with power represent a diversity of perspectives and identities?</i> 3. Is litigation possible to refine and expand the law's interpretation? 6. What is the strength of authority of the agency administering the policy? 7. Is there room to transform a symbolic reform into a material reform? How?
K	Role Change and Role Equality	1. Is the goal of the policy role equity or role change? 2. Does the type of change proposed affect the chance of successful passage?	1. Is the goal of the policy role equity or role change? 2. Does the type of change proposed affect the chance of successful passage? 3. <i>Does the policy impact women's economic autonomy as a step toward equality? Does it pay special attention to the differences of women along their race/ethnicity, sexual identity, gender identity/expression, class, religion, national origin, documentation status, migration status, carceral status, and ability/disability identities?</i>
L	Power Analysis	5. Are women involved in making, shaping, and implementation of the politics? In which ways were they involved? How were they included or excluded? Were the representatives of women selected by women? 6. Does the policy work to empower women? 7. Who has the power to define the problem? What are the competing representations? 8. How does this policy affect the balance of power? Are there winners and losers? Is a win-win solution a possibility?	5. Are women <i>representing diversity along race/ethnicity, sexual identity, gender identity/expression, class, religion, national origin, documentation status, migration status, carceral status, ability/disability identities</i> involved in making, shaping, and implementing the policy? 6. Does the policy work to empower women <i>of varying race/ethnicity, sexual identity, gender identity/expression, class, religion, national origin, documentation status, migration status, carceral status, ability/disability identities</i> ? 7. Who has the power to define the problem? What are competing representations of the problem? 8. How does this policy affect the balance of power? Are there winners and losers? Is a win-win solution a possibility?
M	Other	1. Is the social construction of the problem recognized? What are alternate representations of the problem? 2. Does this policy constitute backlash for previous women's gains? 3. How does feminist scholarship inform the issue?	1. Is the social construction of the problem recognized? What are alternate representations of the problem? 2. Does this policy constitute backlash for previous policy gains for <i>multiply marginalized groups</i> ? 3. How does <i>intersectional</i> feminist scholarship inform the issue? 4. What organizations representing women of color and women with differing identities were involved in the policy formulation and

			<p>implementation? Was there consensus or disagreement?</p> <p>5. Where are the policy silences? What are the problems for <i>women of colour, women with disabilities, immigrant women, formerly incarcerated women, queer women, trans women, and more that are denied the status of problem by others</i>? What policy is not being proposed, discussed, and implemented?</p> <p>6. How does the policy compare <i>to similar transnational policies</i>? Are there alternative models that can be learned from and borrowed from?</p> <p>7. Does the policy blame, stigmatize, regulate, or punish women? Or does it specifically <i>blame, stigmatize, regulate or punish, marginalized groups of women such as poor, queer, trans, undocumented, incarcerated, and/or abused women of colour</i>?</p>
--	--	--	---