

# UNIVERSITY OF TWENTE.

## The EU: Guardian of Inequalities? An Analysis of EU Documents on Development Cooperation and AI from a Postcolonial Perspective

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BACHELOR THESIS

by

Alina Makridis  
(s2411660)

Public Governance across Borders (B.Sc.)

1st Supervisor: Dr. René Torenvlied

2nd Supervisor: Dr. Ringo Ossewaarde

Submission: 23.08.2021

Word count: 11919

### Abstract

This study deals with the question *of the extent to which postcolonial structures are visible and reproduced in EU documents on AI and development cooperation*. To answer the research question, a literature review is being conducted. So far, the countries of the global north dominate the AI market. The countries of the global South are at risk of being left behind by technological change. This leads to the theory of postcolonialism. The concept of postcolonialism criticizes the world's asymmetrical power distribution through which the Global North oppresses the Global South by establishing colonial practices in former colonized countries to reinforce and maintain dependence and the Global North's power domination. The following research will therefore deal more closely with the AI and development policies of the EU and analyze them from a postcolonial perspective.

**Keywords:** Artificial Intelligence, Development Cooperation, Post-Colonialism, European Union, Sustainable Development, Digital Technologies, EU Policy

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# 1 Introduction

## 1.1 General Understanding

Artificial Intelligence (AI) is a subject of great controversy. Some see it as a bearer of hope, others as a danger. The progressive development of AI and technological innovation in general are increasingly encompassing aspects of the cultural, economic and political life of modern society (Mohamed et al., 2020). AI is a sub-aspect of digitization that is increasingly being addressed in the media. The current high level of interest is due to several technological advances in recent years that have taken the use of AI to a new level. Furthermore, AI could also be very helpful in regard to development cooperation by forecasting disease spread, droughts or even predicting armed conflicts (Bornemann & Gabel, 2019). The EU considers itself to be the world's largest *donor* of development *aid* and cooperation (European Union, 2020). Therefore, it also plays a central role when it comes to the implementation of sustainable development. Development Cooperation (DevCo) refers to public and private services on preferential terms to *developing countries* with the aim of promoting economic, social and political progress (Betz, 2018). It is a joint effort by countries of the Global South and countries of the Global North to reduce global disparities in socio-economic development and general living conditions in a sustainable and substantial manner. This paper aims to investigate AI policy in the context of EU development policy. So far, the *industrialized countries* dominate the AI market. The top 10 countries leading the AI market worldwide are all the countries of the Global North. The report "Who Is Winning the AI Race: China, the EU or the United States?" conducted by Daniel Castro, Michael McLaughlin and Eline Chivot shows that the European Union is lagging behind the US and China in terms of its AI efforts. The basic conditions in so called *developing countries* are therefore sometimes worse than in *industrialized countries* for AI development. Thus, there is a danger that ultimately only the wealthy countries can afford to invest in AI. The countries of the Global South are at risk of being left behind by technological change. This leads to the theory of postcolonialism. The concept of postcolonialism criticizes the world's asymmetrical power distribution through which the Global North oppresses the Global South by establishing colonial practices in former colonized countries to reinforce and maintain dependence and the Global North's power domination. The following research will therefore deal more closely with the AI and development policies of the EU and analyze them from a postcolonial perspective.

## 1.2 State of Research

Currently, much is already written about the potential and the dangers of AI. Many scholars, private and public companies and many universities do research in the field of AI.

AI influences the future of almost every industry and every person. It has also been the driving force behind emerging technologies such as big data, robotics and IoT and will continue to function as a technological innovator for the foreseeable future (Thomas, 2021). Thus, it can be expected that AI will shape the future development of the world.

Another important issue that may define the agenda for the future of the world is sustainable development. Sustainability affects all areas of our lives and our economy and is therefore a task for the whole society. Earth's resources are being used as they have never before. This is despite the fact that they are only available to a limited extent. Thus, sustainability means keeping up with resources (BMU, 2021). The 2030 Agenda for Sustainable Development, which was adopted by the member states at the UN Summit on Sustainable Development in 2015, defines 17 global Sustainable Development Goals (SDGs) with the title "Transforming our World". These goals serve as an essential framework for the international implementation of sustainable development (BMU, 2021).

Looking at the two trendsetting, formative developments that are briefly mentioned above, it is striking that very few researchers have actually linked AI and sustainable development in their analyses. Apparently, there is not much literature on AI in the context of development policy.

A notable exception is Vinuesa et al. (2020), who published a policy document about the potential impacts of AI on sustainable development. They indicate that AI can have both positive and negative impacts on sustainable development. The study has made an important contribution to the research gap by analyzing the extent to which the impact of AI can enable or prevent the achievement of all 17 goals and 169 goals of the 2030 Agenda for Sustainable Development.

Recently, an important strand of research came up that may define the future development of the world. Many scientists argue that although the colonial era has been formally abolished, global power imbalances persist. This is referred to in science as the theory of postcolonialism.

Most scholars of postcolonialism are concerned with the reproduction and stabilization of colonial hegemonies. The aim is to make power imbalances visible. Thus, this theory offers a good approach to adequately answer the research question.

The theory of postcolonialism offers much available literature. Postcolonial theory deals with both historical colonization and ongoing processes of decolonization and recolonization (zhdk, n.d.). It

evolved in the 20th century from an examination of the history of colonialism and imperialism<sup>1</sup>. Edward Said, Homi Bhabha, María do Mar Castro Varela and Adam Ziai are among the most influential authors. The end of the colonial period is usually referred to as the period of the 1960s, when most colonized nations regained their independence. Nevertheless, interest in the phenomenon of colonialism is growing steadily (Conrad, 2012).

On the one hand, it is becoming increasingly clear that colonial rule and exploitation were an important part of the development of the modern world, on the other hand, colonial relations are still not completely overcome. The application of postcolonial concepts to empirical areas of political science is also often concerned with the analysis of the reciprocal constitution of identities, systems of representation, institutions, and political practices. The subject areas within political science in relation to postcolonialism range from peace and conflict research, migration research or international political economy, to development cooperation and development policy. In regard to the concept of DevCo, Franz Nuscheler can be mentioned as a key author in the field of development policy, who has played a decisive role in shaping this policy (Debiel, 2018).

It can be concluded that the merging of the three concepts – AI, DevCo and postcolonialism – has not yet been sufficiently explored. Thus, the following study aims at contributing to the already existing body of knowledge.

### **1.3 Research Question**

Based on the framework outlined above, the following research question was formulated:

*RQ: “To what extent and how are postcolonial structures visible and reproduced in EU documents on DevCo and AI?”*

The aim of the research question is to identify postcolonial structures in EU policy documents and to investigate their causes. In order to be able to answer the research question comprehensively, further sub-questions have been formulated. These are intended to help with the analysis and evaluation.

SQ1: “How can we theoretically understand the relation between AI, DevCo and postcolonialism?”

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<sup>1</sup> Imperialism refers to the efforts of states to extend their power far beyond their own national borders. This can be done by deliberately making weaker countries politically, economically, culturally or by other methods dependent on the stronger country (Schneider & Toyka-Seid, 2021).

SQ2: “To what extent is AI reflected as an instrument for DevCo in EU policy?”

SQ3: “To what extent does EU DevCo policy reproduce postcolonial structures?”

#### **1.4 Scientific and Societal Relevance**

The scientific relevance of the present bachelor thesis lies in the observation that there are still not many published studies that systematically investigate the extent to which AI could influence aspects of sustainable development. This can be considered a critical research gap, as scientists argue that AI can influence the ability to meet all SDGs (Vinuesa et al., 2020).

Although postcolonialism is already an important field of analysis in literary and political science, it has so far been used only rarely to analyze technological developments such as AI. This creates another important contribution to the scientific relevance. Moreover, there is hardly any scholarly literature that combines the three components of postcolonialism, policy of AI and policy of DevCo. This thesis thus makes a significant contribution to the existing body of knowledge. In regard to the societal relevance it can be stated that the confrontation with AI will be inevitable in the future, as it is already anchored in many areas of life. Furthermore, postcolonialism is generally concerned with the effects that colonial rule has to date (Ashcroft et al., 2007). It is thus an approach that is also of great relevance for today's time and current events.

#### **1.5 Further Remarks**

In this paper it has been decided to refer to “developing countries“ as countries of the Global South, where as “industrialized countries“ are referred to as countries of the Global North.

This is due to the fact that language shapes and influences our thinking to a great extent. By using the words *developing countries*, *countries of the third world* or *development aid* instead of cooperation, the countries of the Global South are degraded and subordinated to the Western countries. However, since the opinions of other scientists and authors who use such words are also expressed here, this will be characterized by the cursive spelling.

## **2 Theoretical Background and EU-Policies**

The following section provides the answer for the first subquestion. In order to do so, the theoretical framework of this paper will be lined out. Thus, academic literature on postcolonialism, as well as literature on EU policies in relation to AI and DevCo will be combined. This mixing of concepts may be unusual, however, as these three components form the basis of this thesis, this approach is unpreventable. The three components are first explained and analyzed individually. In the process

the other subquestions will also be answered. At the end of this chapter, expectations are formulated which are to be answered in the following research.

## **2.1 Theory: Postcolonialism**

A central aspect of postcolonialism is to make the continuing influence of colonial structures on a formally decolonized present visible, in order to make it clear that colonial power relations have not yet been overcome. Postcolonialism is a broad field of research composed of a large number of scholars who study different topics from different backgrounds. The term is used in different disciplines such as history, sociology or political science to “analyze the impact of European imperialism on world societies“ (Ashcroft et al. ,169: 2007).

Therefore, the generalization of the theory as universally applicable may lead to misunderstandings. Sensitivity to the relevant context is therefore as important as a well-founded conceptualization of the concept of postcolonialism. In addition, the postcolonial demand is also to make positions from the Global South specifically audible and to take more account of the specific power and knowledge structure on the basis of empirical examples (Ernst, 2010). The study of postcolonialism began with Edward Said’s 1978 work “Orientalism. ” In “Orientalism”, colonial discourse theory is established and developed by analyzing the influence on the representation of a country, in order to use the term postcolonial for “political, linguistic, and cultural experiences of former European colonies” (Ashcroft et al. , 168: 2007). His work has coined the term “othering“. It emphasizes the relationship between the West and the Global South. This dichotomy defines the West as a developed and civilized place, while the Global South is its constant opposite, representing the less modernized. Therefore, the construction of the other is of fundamental importance (Said, 1978).

The theory of postcolonialism is of central importance in examining the extent to which Western colonialism and imperialism shape current institutional practices and the extent to which colonized societies respond to them. A central point of reference is also the criticism of the Eurocentrism of the social sciences and its decolonization (Franzki & Aikins, o. D. ).

In addition, it is important to note that each formally colonized state is organized differently, and has experienced different colonial and post-independent experiences and treatments, which must be taken into account when analyzing postcolonial practices in the Global South (Ashcroft et. al, 2007).

Postcolonial approaches are often defined by their interest in knowledge, such as “thematization of the persistence and after-effects of a variety of relationship patterns and effects of colonial

rule” (Conrad & Randeria in Ziai, 402: 2010). There are different views on the concept of the postcolonial.

According to Ziai, postcolonial studies are not simply referred to as such because “they deal with postcolonial societies” (Ziai, 402: 2010). The postcolonial prefix *Post* might suggest that the end of colonial relations between North and South is over, however, it refers instead to colonial continuities that persist after the end of foreign political rule under changed conditions (Hall, 1996). Spivak, on the other hand, describes postcolonialism as “the heritage of imperialism in the rest of the world” (Spivak in Ahmad, 3: 1995). According to María do Mar Castro Varela and Nikita Dhawan, postcolonial approaches investigate not only the process of colonization, but also the ongoing decolonization and recolonization (Castro Varela & Dhawan, 2010).

In this thesis, postcolonialism is understood as the maintenance of hegemonies and hierarchies that emerged during the colonial period, but still have an enormous influence in many areas such as politics, economics and education. Ultimately, the raising of awareness for postcolonial ways of thinking should lead to the goal of dismantling colonial power relations. The traditional logic of the division of the world is to be challenged. The aim is to question and revise cultural ascriptions and devaluations, as well as stereotypical representations of people and living conditions in the Global South, which, among other things, reinforce racist clichés. Furthermore, the Global North is to break through the centuries-old rule of the Global South in order to achieve a common, equitable and reflective development. Development is hereby not understood as an undisputed continuation or adoption of the norms and standards of the Global North, but as an effective integration of all perspectives.

## **2.2 EU Policy on Artificial Intelligence**

In this section the second subquestion “To what extent is AI reflected as an instrument for development cooperation in EU policy?” will be answered.

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### **2.2.1 General Information of Artificial Intelligence**

One of the essential intellectual trends of modern times is the Enlightenment paradigm. The book 'The Dialectic of Enlightenment' from 1947 written by Max Horkheimer and Theodor W. Adorno significantly shaped this paradigm. In the opinion of Horkheimer and Adorno, the modern social sciences and public administration were most influenced by the Enlightenment movement. Further, they argue, that while the Enlightenment brought progress and liberation from outdated thinking, it



is now being misused by governments as a justification for power (Horkheimer & Adorno, 1947). In the Article "How the Enlightenment Ends" Henry Kissinger illustrates this development, while also referring to the rise of AI (Kissinger, 2018). The paradigm of Enlightenment also serves Enlightenment science and is therefore also important for the scientific and technological revolution. This can be found in the development of AI.

AI is gradually shaping more and more industries. For instance, AI is expected to influence "global productivity, equality and inclusion, environmental outcomes and many other areas in both the short and long term" (Vinueza et al., 2020). However, there is no internationally agreed definition of AI. The UN refers to AI as the new frontier of mankind. Once this limit is crossed, AI will lead to a new form of human civilization. The guiding principle of AI is not to become autonomous or to replace human intelligence. However, it should be developed on the basis of a humanist approach based on values and human rights (Azoulay, n.d.).

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### **2.2.2 EU Policy on AI**

As the EU works closely with the UN and is guided by many of its requirements<sup>2</sup>, it is interesting to also look at the EU's AI policy. Thus, another theoretical aspect that needs to be taken into account is the discussion of the structure of the EU's AI policy.

For years, the Commission has been facilitating and strengthening EU-wide cooperation in the field of AI in order to increase European competitiveness and strengthen the trust in EU values. On 21 April 2021, the European Commission presented the world's first legal framework for AI.

The rules laid down in the framework are designed to ensure that AI is trustworthy. It is stated, that AI systems must ensure the security, livelihoods and rights of people – unless they do so, they must be banned (Europäische Kommission, 2021).

The Commission describes AI as a fast-developing family of technologies capable of delivering multiple economic and societal benefits across a wide range of sectors and societal activities (Europäische Kommission, 2021). The EU argues that the use of AI can deliver socially and environmentally beneficial results through better forecasting, optimization of operations and resource allocation, and personalized service delivery, thus giving businesses and the European

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<sup>2</sup> Founded in San Francisco in 1945, the UN, with its 193 member states (as of 2021) and its broad mandate, represents an attempt to overcome the anarchy of state relations by means of multilateral rules (BPB, n.d.). The EU's relations with the World Organization date back to the 1960s. They intensified with the establishment of the Common Foreign and Security Policy and the obligation of EU states to coordinate their action in international organizations, which is established in Article 34 TEU (BPB, n.d.). The EU is thus an important cooperation partner of the UN in all its fields of activity.

economy decisive competitive advantages. For years, the Commission has been promoting and strengthening EU-wide cooperation in the field of AI to strengthen Europe's competitiveness.

Following the publication of the European AI Strategy in 2018 and after extensive stakeholder consultation, the High Level Expert Group on Artificial Intelligence (HEG-AI) established guidelines for trusted AI in 2019 and a Scoreboard for Trusted AI in 2020.

In parallel, the first Coordinated Plan for AI was published in December 2018 as a joint commitment to action with the Member States of the Union (Europäische Kommission, 2021). In 2020, the EU presented a White Paper<sup>3</sup> on AI. In the White Paper, the Commission set out a clear vision for AI in Europe: an ecosystem of excellence and trust, which underpins the legislative framework proposed in April.

Right at the beginning it is written that *“Against a background of fierce global competition, a solid European approach is needed, building on the European strategy for AI presented in April 2018. To address the opportunities and challenges of AI, the EU must act as one and define its own way, based on European values, to promote the development and deployment of AI. The Commission is committed to enabling scientific breakthrough, to preserving the EU's technological leadership and to ensuring that new technologies are at the service of all Europeans – improving their lives while respecting their rights“* (white paper, 2020). Furthermore, the Commission states that high-risk AI systems should be subject to strict requirements which must be met before they can be placed on the market. As regards AI governance, the Commission proposes that the application of the new rules be overseen by the competent national market surveillance authorities. In addition, an European Artificial Intelligence Committee will be set up to monitor implementation and promote the development of standards in the field of AI (Europäische Kommission, 2021). This coordination aims to strengthen Europe's leading role in people-centered, sustainable, safe, inclusive and trustworthy AI. The European Commission is committed to promoting innovation in the development and use of AI in all sectors of the economy and in all Member States in order to maintain Europe's competitiveness in the world (Europäische Kommission, 2021).

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### **2.2.3 Answer to Sub-Question 2**

The second sub-question deals with the extent to which AI is reflected as an instrument for DevCo in EU policy. The framework of the EU's AI policy does not specifically consider AI as a DevCo

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<sup>3</sup> The White Papers of the European Commission are documents proposing action by the European Union in a specific field. The White Paper aims to launch a debate with the public, stakeholders, the European Parliament and the Council in order to reach a political consensus (EUR-Lex, n.d.).

instrument. However, the EU expects AI to impact global productivity, environmental outcomes, and many other areas in both short and long term. In doing so, it describes AI as a tool capable of influencing a wide range of areas. In addition, the EU is committed to promoting innovation in development. This suggests that the EU certainly sees the use of AI in DevCo as beneficial, even if it was not clearly stated.

## **2.3 EU Policy on Development Cooperation**

In this section the third subquestion “To what extent does EU DevCo policy reproduce postcolonial structures?” will be answered.

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### **2.3.1 General Information of the EU’s Development Cooperation**

The EU has an explicit competence to conclude bilateral or multilateral agreements with third countries. As a result, the EU has developed a strong legal position. The EU therefore concludes DevCo agreements with countries of the Global South in order to be consistent with the UN’s SDGs to promote sustainable development.

Development policy measures vis-à-vis third countries date back to the beginnings of the European integration process. The Treaty of Rome of 1957 already laid the foundations for adequate support for the then overseas territories of the EC Member States (Algieri, 2020). EU development policy has its origins in trade, which shows the economic background of the policy area (Broberg, 2020). Through several changes over the years, development policy became an explicit competence of the EU in 1992 and expanded its scope from trade to development aid (Broberg, 2020). The Maastricht Treaty, signed in 1992, created for the first time a uniform treaty basis for the different dimensions of DevCo (Algieri, 2020). The implementation of the SDGs is also particularly important for the EU’s development policy. Development policy practice is very keen to implement these goals in its actions and to legitimize the SDGs (Debiel, 2018). The EU and its member states describe themselves as the world’s “biggest donor of [development] aid”, providing a total of EUR 74.4 billion of official development assistance (ODA) in 2018 (European Union, 2020). The current debate in development policy and political science development research, in which there is a relatively broad consensus in addition to the fundamental criticism of post-development approaches, also differs significantly from previous decades (Debiel, 2018).

The operationalization in 17 goals and 169 sub-goals can be seen as a great success, since it has become possible for the international community to combine two previously separate discourses,

namely the one on the future development agenda and the environmental policy discourse (Brühl, 2018).

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### **2.3.2 Legal Guidelines**

It is also necessary to analyze the guidelines for DevCo between the EU and third countries. As the EU is an international organization, certain legal guidelines must be followed. All EU action must be consistent with the common values, principles and objectives set out in Articles 3 and 21 TEU.

According to Article 3 TEU, peace, respect for the values of the Union and the well-being of its peoples are one of the essential objectives of the EU (Article 3 TEU). Article 21 TEU, on the other hand, clarifies that the Union's action at international level must be guided by the principles which have underpins its own creation, development and enlargement and which it wishes to strengthen at world level. This includes "democracy, the rule of law, the universal validity and indivisibility of human rights and fundamental freedoms, respect for human dignity, the principle of equality and the principle of solidarity, and respect for the principles of the Charter of the United Nations and international law" (Article 21 (1) TEU).

Moreover, the EU cannot act without the consent of the Member States, which is enshrined in Article 5 (2) TEU as the principle of limited individual empowerment. The principle of loyalty requires Member States to act in accordance with the Treaties (Article 4 II, III TEU). The guidelines are enshrined in the Treaties and place high demands on the EU's external relations and, consequently, on DevCo.

Furthermore, Article 217 TFEU provides the legal basis for EU DevCo, as it gives the EU the power to conclude agreements with one or more third countries where such agreements "established an association with mutual rights and obligations, common action and special procedures." (Art. 217 TFEU).

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### **2.3.3 The Relevance of the Sustainable Development Goals**

The 17 SDGs are political objectives of the UN, which aim to secure sustainable development on an economic, social and environmental level worldwide. They range from eradicating global hunger and strengthening sustainable consumption and production to climate protection measures. The 17 goals are contained in an UN resolution called the 2030 Agenda. They were designed in line with the development process of the Millennium Development Goals (MDGs) and are to be achieved by 2030. The MDGs were largely based on a traditional understanding of development. This was

geographically concentrated on the countries of the Global South. Despite the rhetoric of partnership, it saw the countries of the Global North (i. e. above all the former *First World*) primarily as “donors”, providing a kind of social assistance to the “marginal groups” of world society through more effective development cooperation in an asymmetric transfer relationship (Debiel, 2018). In contrast, the SDGs are universal and the different dimensions of sustainable development affect all countries of the world. In this respect, the SDGs meet the formal criterion of equity between states within a global framework of reference. However, the countries of the Global North are required to formulate and implement targets for their own societies as well (Debiel, 2018). Compared to the MDGs, the content of the SDGs is also much broader: above all, they attach greater importance to sustainability and thus combine the development agenda with the environmental agenda. However, the thematic expansion goes even further. For instance, the SDGs emphasize the value of decent work and aim to reduce inequalities within and between states. Above all, however, the long controversial inclusion of SDG 16 marks a breakthrough: it identifies peace, justice and strong institutions as integral components of development, thus overcoming a blind spot in the MDGs (Debiel, 2018). For a long time, the debate on development policy was characterized by the dichotomy of the “North” and the “South”. Not only did it make it possible to clearly distinguish the “own world” from the “foreign world”; it has also mobilized political processes, which are still almost ritualized in the UN framework today and are reflected in clashes between industrialized countries and the Group of 77<sup>4</sup> (Menzel, 2018).

Today, development policy practice is based on legitimizing and aligning its actions within the framework of the SDGs (Debiel, 2018). The EU considers sustainable development to be a core principle of the Treaty on European Union and a priority objective of the Union’s internal and external policies (European Commission, n.d. a). Further, they state that the 2030 Agenda provides the roadmap for a better world and the global framework for international cooperation on sustainable development and its economic, social, environmental and governance dimensions (European Commission, n.d. a). Moreover, since 2017, the new European Consensus on

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<sup>4</sup> The Group of 77 is an association of originally 77 countries of the global south with the aim of representing the economic interests of *developing countries* in existing international organizations (e. g. World Bank, International Monetary Fund). The Group of 77 dates back to the first World Trade Conference in Geneva in 1964. Today, there are 134 countries in the G77. The Group of 77 is not an international organization with its own administrative apparatus, but has established itself as a representative of the interests of countries of the global south (BMZ, 2021).

Development<sup>5</sup> has alerted all development activities of the EU institutions and EU Member States to the 2030 Agenda. The EU is committed to policy coherence for development and systematically takes into account the potential impact on *developing countries* when designing its policies (European Commission, n.d. b).

While there are many supporters of the SDGs, there are also voices of people who criticize the goals. Tanja Brühl argues, for example, that in many areas there is no progress in achieving the goals. Rather, she proclaims that the situation has deteriorated in recent years, for instance, with regard to social disparities between and within countries (Brühl, 2018). Jens Martens is also critical of the implementation of the goals. He argues that the enforcement of the competition between agendas and strategies ultimately depends on the influence of the respective interest groups and the social power relations. Notably, in the 2030 Agenda, governments themselves have called the “enormous disparities in opportunities, wealth and power” within and between countries as “great challenges” for sustainable development (United Nations as cited in Martens, 2018). Only by reducing economic, social and political inequalities can the Sustainable Development Agenda and its objectives be achieved (Martens, 2018).

Dieter Senghaas has analyzed the SDGs in the light of development theories<sup>6</sup>. He argues that the pursuit of the respective development policy orientation is always a question of power. According to Karl W. Deutsch, do “those who have power believe they can afford not to have to learn” (Karl W Deutsch in Senghaas, 2018). Senghaas argues, that this problem is most apparent in global relations, which “always have been and still are marked by clearly asymmetric structures, which is also evident in the EU-Africa exchange processes” (Senghaas, 197: 2018). As an example, he refers to the predatory competition, where the growth of a supplier does not go hand in hand with the growth of the market, but at the expense of less efficient competitors. This competition is particularly strong in EU-Africa exchange processes, to the detriment of the ‘less developed countries’. According to Senghaas, it is precisely these asymmetries, such as those in EU-Africa relations, that need to be re-evaluated in the implementation of SDG 17 “Global Partnerships“. This

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<sup>5</sup> Together with its Member States, the EU adopted the European Consensus on Development in 2017 in response to the UN 2030 Agenda for Sustainable Development and the SDGs. The Consensus defines the common vision and the framework for action for EU development cooperation (European Commission, 2017).

<sup>6</sup> Development theories deal with the foundation of development and underdevelopment. Modernization theory and dependency theory can be seen as the two major antipodes of theoretical debate during the last decades. Within the framework of this thesis, however, a more detailed discussion of these theories is unfortunately not possible.

implementation requires new forms of DevCo, in which the countries of the South would have to be equal. Egzon Sadiku argues that the SDGs are based on Western European and US values. He claims that the implementation of the SDGs in so-called *developing countries* could be seen as a modern method of cultural colonization that is only weakly disguised as modernization (Sadiku, 2016). To support his claim, he cites the country of Kosovo as an example. Here, elements of Western culture in the form of Western organizations (both governmental and non-governmental organizations (NGOs)) will come to Kosovo with a clear idea to “support the development of the country”. Sadiku argues, that the Kosovo war of 1999 created the idea that the general population should be very thankful to the international community for its interventions to end the war. Sadiku claims, that this idea, coupled with Kosovo’s desire to join the EU, created the perfect conditions for the need for a “modern” country as defined by the West (Sadiku, 2016). After the Kosovo War in 1999, there were two main organizations that were supposed to support the government of Kosovo. These were the UNMIK (United Nations Mission in Kosovo), which was active after the war until the declaration of independence in 2008, and the EULEX (European Union for the Rule of Law). UNMIK’s aim was to ensure a peaceful life for all the inhabitants of Kosovo and to be a stabilizing force in the Balkans. EULEX was also developed as an extension of UNMIK. Its objective was to promote the rule of law in Kosovo and to implement and monitor agreements resulting from the negotiations between Kosovo and Serbia. Sadiku believes, however, that both organizations have forced the Kosovar government to take certain decisions that may not have been in the public interest (Sadiku, 2016). Furthermore, Sadiku claims that socio-economic inequality between foreigners and locals, as well as the belief that the international community is the “savior” of Kosovo, has created a local inferiority complex. This inferiority complex is the reason why there is no resistance or protest against the UN’s proposals, such as the SDGs. He also claims that this approach also means a move away from traditional values. He goes so far as to say that the Kosovars are being indoctrinated into believing that their traditional values are inferior to those of the West and that they as a people are inferior to those of the West. Kosovar leaders (under pressure from the Western presence) assume that modernization means forgetting important cultural values that define who Kosovars are and embrace Western values. Sadiku believes that this leads to an identity crisis for the local population. He expresses concern that the people and leaders of Kosovo believe that becoming modern means becoming Western and are thus losing any authentic cultural value. Ultimately, he is stating that the SDGs can be seen in this context as another colonial effort aimed at controlling and transforming countries like the Kosovo.

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### 2.3.4 Answer to Sub-Question 3

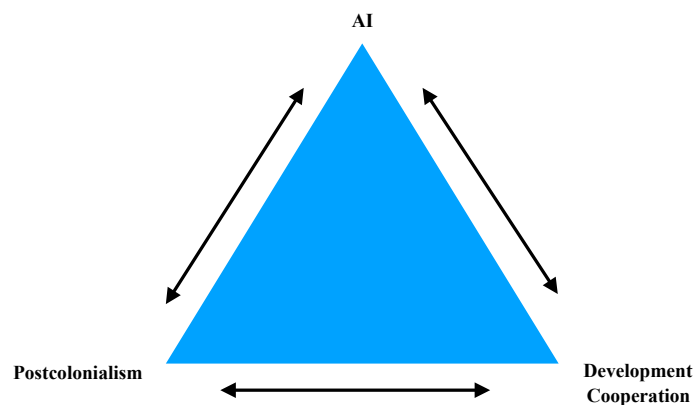
In this section it has already been made clear that the EU's DevCo reproduces postcolonial structures. So far, this can be taken from the language which is used in the official documents by the EU. Moreover, Sadiku's argumentation is a serious point of criticism that needs to be acknowledged. In the following thesis, this subquestion will be analyzed in more detail also in relation to the research question.

### 2.4 Answer to Sub-Question 1

Finally, the first sub-question of how we can theoretically understand the relationship between AI, DevCo and postcolonialism will be answered. To answer the first sub-question, the three components were explained. Chapter 1.2 and 1.4 also explain why these elements are important for the future development of the world. The illustration helps to understand the relationship between AI, DevCo and postcolonialism theoretically.

*Figure 1: Triangle*

*(illustration according to own presentation)*



Now that each part has been explained, it is possible to focus on the interaction effect.

The focus here is on the effects that the respective components might have on each other. On the one hand, it is about the impact that AI could have in implementing more successful DevCo. As the EU's development policy places a particular focus on the implementation of the SDGs, the extent to which AI can assist in the implementation of the SDGs is also crucial.



Furthermore, the extent to which AI is shaped by postcolonial structures can be looked at. Since postcolonialism is a theory that can be seen in many areas of life, it can be assumed that colonial continuities are also made visible in the field of AI.

It also becomes clear that the last point can also be applied to DevCo. Therefore, the extent to which the EU's DevCo is permeated by postcolonial structures will also be addressed. It becomes clear that even if the individual elements deal with very different topics, an interplay of these three is possible. To make this visible is one of the interests of this thesis.

## **2.5 Expectations**

After a detailed examination of the theoretical concepts presented, it is now possible to draw certain expectations from them. The formulation of expectations is an essential aspect of the deductive approach and will help to answer the overall research question in the course of this study.

After an intensified examination of the theoretical framework of European DevCo, it became clear that the EU works closely together with the UN. Often reference is made to documents or decisions of the UN, which is why the following expectation has emerged:

Expectation 1: *The EU's development policy is largely guided by the United Nations Sustainable Development Goals.*

In addition, since AI is still a relatively new field of research, based to a large extent on technological progress, it is expected that AI will first be applied in countries of the Global North. Therefore, the following expectation was formulated:

Expectation 2: *Countries of the Global North have easier access to AI technologies than countries of the Global South due to their higher modernization.*

Moreover, the theory of postcolonialism is very broad and not yet firmly established in many areas of politics. There are voices arguing that the broad masses have not yet been sufficiently sensitized to the issue. It is therefore assumed that postcolonial structures are reproduced by the means of language, particularly in the EU's development policy documents. Thus, the third expectation was constructed:

Expectation 3: *The language used in the EU's DevCo policy documents is reproducing global power imbalances.*

These expectations are an essential aspect of the deductive method and are to be answered on the basis of the findings throughout the study. The individual concepts dealt with in the theoretical framework are complex and extensive. Of course, there are many different views and scientists with

different opinions. Nevertheless, the expectations formulated are helpful to get a better understanding of the subject and to help answer the subquestions and the overall research question. To conclude, this section has presented the theoretical framework of this research. The theory of postcolonialism was presented, as well as the EU's AI policy and the EU's development policy. The latter also addressed the importance of the SDGs. Finally, expectations were formulated which are taken into account in the following sections.

### **3 Methodology**

The following section is intended to give an overview of the methodology used. It introduces the research design, explains how and where the relevant data were collected and how they are used to draw conclusions.

#### **3.1 Research Design**

The selected research design corresponds to that of qualitative research. Qualitative research takes place whenever the research is descriptive or comprehensible in nature (Goldenstein et al., 2018). This is a fact, that significantly sets qualitative research away from quantitative approaches and thus relates primarily to the collection and analysis of the data base of a study (Goldenstein et al., 2018). Qualitative research investigates relationships and phenomena in the environment and the situation in which they occur, making regular use of perceptions or their reproduction (e. g. in the form of transcribed observations), statements (e. g. in the form of interviews) and statements (e. g. in the form of webpages, press releases, etc. ) of the social actors involved. The question of the “why” and thus the understanding of the phenomena is the central concern of qualitative studies (Goldenstein et al., 2018).

Since this study investigates the question of the reproduction of postcolonial structures within the development- and AI policies of the EU, the approach of qualitative research is reflected here. Furthermore, this is a deductive approach, which means that hypotheses have been derived from existing theories.

From an existing theory, verifiable hypotheses can be derived by the logical final procedure of deduction. As these hypotheses are developed from the theories used, they do not contain any “new” information. Their verification should enable statements to be made about the validity of the theories and increase the certainty of knowledge (Lettau & Breuer, n.d.).

This study analyzes two different EU policies from a postcolonial perspective and tries to link them together, while also providing an adequate answer to the overall research question.

The study follows different approaches. In order to gain a good understanding of the AI and development policies of the EU, a literature review was carried out. According to Trapp, literature analyses can be defined as the “reprocessing or synthesis of existing knowledge” (Trapp, 74: 2012). The subject of these studies are already published articles, which are being analyzed in the light of specific questions. The contribution of these studies to the accumulation of knowledge in the form of new insights and conclusions is thus the result of a systematic examination of the existing literature (Trapp, 2012). Therefore, it can be stated that an empirical-archival approach is being used in such studies. As already described in Section 1.2, there is little research on the relationship between postcolonialism, AI-policy and DevCo. Therefore, a sound knowledge of the individual concepts and theories is important. Literature reviews are particularly useful when, in relation to the underlying analysis focus, there are incomplete research questions and findings (both theoretical and empirical) that have been raised so far (Goldenstein et al, 2018). Since there is little literature on the subject of AI’s field of research in the context of postcolonialism and development policy, this approach is very appropriate here.

Moreover, this research deals with the question of the extent to which postcolonial hegemony of rule are visible and reproduced in EU policy documents. Since postcolonial theory is a political discourse, it is to be investigated. Therefore, it was decided to conduct a discourse analysis. According to Keller, a discourse analysis is a collective term for many different research approaches that deal with “the analysis of “natural” communication processes in different contexts“ (Keller, 13: 2013). These can be done from “linguistic, sociolinguistic, ethnomethodological-conversation analysis, sociological and psychological perspectives“ (Keller, 13: 2013). As the study deals with global imbalances, this method is very well suited to the linguistic analysis of EU policy documents. This is particularly true since discourse analysis provides theoretical and methodological tools for a well-founded critical examination of social problems, power and inequality (Keller, 2013).

### **3.2 Case Selection**

The case of the analysis of EU development policy and AI policy from a postcolonial perspective was chosen primarily because it potentially deviates from what postcolonial theories have analyzed so far. Analyzing DevCo from a postcolonial perspective is an already existing field of research, however, with the contribution of AI policy a further level of research has been introduced. Postcolonialism provides an interesting context for the study of EU policies, as the EU in particular repeatedly proclaims itself to be the guardian of human rights and to want to carry its established

values and norms to the outside world. Since postcolonialism addresses the persistence and aftermath of colonial relations, this theory offers a good approach to analyzing the EU in individual policy areas on precisely these values and norms. A second important criterion was the accessibility and availability of empirical information and literature, which is crucial in order to understand the perceptions and motives of the parties involved.

### **3.3 Data Collection**

Qualitative data are used to understand the extent to which postcolonial structures are reproduced and made present by EU policies in regard to AI and DevCo.

In order to carry out the literature review, scientific databases were first searched. These included literature databases such as Google Scholar, Springerlink, Sage and JSTOR. Furthermore, the databases of the Westfälische Wilhelms-Universität Münster and the University of Twente were used. In addition, journals, databases and variables as well as the research focus and research method were taken into account. The academic literature was thereby found using search strings, such as *“artificial intelligence and development cooperation EU“*, *“artificial intelligence and post colonialism EU“* or *“development cooperation EU postcolonial“*. During this process a large amount of literature was collected. Given the limited amount of time available, it was possible to focus only on the most important sources. For this purpose, the literature was evaluated first in terms of its relevance and then in terms of its scientific quality.

Relevant publications were considered to be those that fit well with the research topic. In order to determine the relevance of the book or article, it was first looked at the abstract, introduction and conclusion. This provided a good overview of the information and to assess whether the publication could be useful for this study. The quality of a publication was determined by a number of factors. On the one hand, an attempt was made to use only publications published in renowned journals. In this respect, it was advantageous that the decision to use scientific databases was made in advance. Further, a look at the expertise of contributing authors was also helpful, as expert authors are usually from an academic institute, publish extensively, and are often cited by others. It was also very helpful to look at the references of already selected literature, as they were often related to the research field.

In order to examine whether AI and DevCo are reproducing colonial patterns, specific data must be collected. Therefore, official policy documents were examined as part of this research. These documents were selected to provide adequate insight into the representation of AI and development policy implementation from a postcolonial perspective. As EU policy is particularly concerned, the

strategy papers on AI and DevCo have been selected in particular. In addition, UN policy documents were analyzed as they also play an important role for the EU. These documents are easily accessible from the official websites of the institutions.

In regard to AI policy, the selected documents are especially concerned with the regulation and innovation of AI in society, the administrative apparatus and the economy of the EU. In particular, the legal framework is of particular importance. The policy documents with regard to DevCo are formulated broader, since there are individual agreements for many countries of the Global South, which are regulated differently in each case. However, the policy documents that formulate the general regulations of DevCo focus primarily on financial resources and the implementation of the SDGs.

Since the main focus is on the interrelationship of the three components, previously published research has been consulted. This thesis offers an essential scientific contribution due to its investigation of three different elements in connection with each other, which has not yet been carried out. Therefore, in the analysis section, it was decided to draw on the existing studies and re-evaluate them. This approach is scientifically described as Secondary Research and makes use of already existing sources of information (Shah, 2018).

### **3.4 Operationalization & Coding**

Operationalization is the formulation of rules which help to determine the extent to which the circumstances described by a term are present. In the case of this study, it is therefore necessary to deal with the concept of postcolonialism. In order to draw relevant conclusions, the main concepts need to be measured. For this purpose, the existing literature has been thoroughly analyzed. Since only a certain number of policy documents were analyzed, it was decided not to use a computer program such as Atlas.ti. Instead, the PDF Viewer was used to search the corresponding texts for the respective words. These words were based on the search strings with which the relevant literature had already been found. A detailed overview of the coding scheme and procedure can be found in the appendix.

## **4 Analysis**

The following section serves as the main part of the study, in which the data are analyzed on the basis of the theory of postcolonialism as well as the policies of the EU in regard to AI and DevCo. To this end, the analysis is carried out in three steps: firstly, the use of AI in EU development policy is analyzed. It then analyzes the extent to which AI is shaped by postcolonial structures. The third

part evaluates DevCo from a postcolonial perspective. This procedure follows again the already presented triangle from Figure 1. Finally, after an in-depth examination of the data, the expectations set out in 2.4 are being assessed.

#### **4.1 Application: AI and DevCo**

AI has the potential to address some of the world's most challenging social issues (Chui et al., 2018). So far, however, there is hardly any published study that systematically examines the extent to which AI could influence all aspects of sustainable development (Vinuesa et al., 2020). As already described in Section 1.3, little research has been done on the relationship between AI and DevCo in general. The studies of Vinuesa et. al (2020) and Chui et al. (2018) fill this research gap to some extent, as both studies address the use of AI in relation to the implementation of the UN SDGs. Development policy is currently largely focused on the SDGs in practice and research (Debiel, 2018). This also applies to the EU's development policy, as already explained in section 2.3.3.

In their study, Vinuesa et al. argue that the emergence of AI and its increasing impact on many sectors requires an assessment of its impact on the achievement of the SDGs. However, they also argue that current research priorities overlook important aspects. The rapid development of AI needs to be supported by the necessary regulatory knowledge and oversight for AI-based technologies to enable sustainable development. Otherwise, there may be gaps in "transparency, safety and ethical standards" (Vinuesa et al., 1: 2020).

The study by Vinuesa et al. presents implications by which AI can enable or prevent the achievement of all 17 goals and 169 goals of the 2030 Agenda for Sustainable Development. Using a consensus-based expert survey method, the study concludes that AI can achieve 134 goals across all goals, but can also inhibit 59 goals. Vinuesa et al. concluded that AI can be an enabler for 134 targets (79%) of all SDGs. However, 59 targets (35% across all SDGs) may have negative impacts through the development of AI (Vinuesa et al., 2: 2020). To reach this conclusion, they have divided the SDGs into three categories and analyzed them according to the three pillars of sustainable development: society, economy and environment. This classification is intended to provide an overview of the general areas of activity of AI.

Vinuesa et al. conclude that it is important to adopt decentralized AI approaches for a fairer development of AI. Instead, they argue that to shape a future in which AI makes a positive contribution to achieving all SDGs, a global and science-driven debate is needed to develop common principles and laws between nations and cultures. The current decisions to develop

sustainable development-friendly AI by 2030 have the potential to unlock benefits that could go far beyond the SDGs of our century. Furthermore, all actors from all nations should be represented in this dialogue, so that no one is left behind.

In the study by Chui et al. (2018), which was carried out on behalf of the McKinsey Global Institute, a total of about 160 Social Good Use Cases were collected. These touch on some aspects of all 17 United Nations Sustainable Development Goals and could potentially help hundreds of millions of people around the world.

This study provides the basis for an in-depth analysis of the areas where AI could be used, the applications likely to have the greatest impact, and the bottlenecks and risks that need to be addressed (Chui et al., 2018).

Chui et al. also address the issue of data problems. They argue that solving data problems requires careful coordination. To this end, they propose to change the education system. They explain this by a shortage of highly qualified AI-Experts, as well as a shortage of data scientists, translators and other AI practitioners who are involved in the implementation phase. However, this may prove difficult, as access to education in many countries of the Global South is a privilege that many people simply cannot afford. Thus, global inequalities in this regard have to be addressed first.

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#### **4.1.1 Case Example: Child Growth Monitor**

In the context of DevCo, AI can also contribute to the successful implementation of individual objectives. In order to analyze this in more detail, a concrete example is presented below. This example is about a newly developed app that uses AI to detect malnutrition in children and thus aims at counteracting the fight against global hunger.

In order to solve the existing problems in the detection of malnutrition, the German NGO *Welthungerhilfe* (which can be translated as “World Hunger Aid“) is working on a digital solution. They developed an app called "The Child Growth Monitor (CGM)" which is supposed to help for correctly diagnosing the nutritional situation of children. Using video recording, it measures weight and size and automatically transmits the data to a NGO or the government that processes the data.

Great progress has already been made in the global fight against hunger. This is shown by the current World Hunger Index. Index values have fallen by 28 percent worldwide since 2000, and infant mortality has also halved in the same period. However, more than 821 million people worldwide still suffer from chronic hunger, including 200 million children (Welthungerhilfe, 2018b). That is why Welthungerhilfe has decided to work on a sustainable solution. The process of detecting malnutrition in children is beset by major problems. Measurement, diagnostics and

documentation often fails. Errors and 30 percent of children are not measured at all (Welthungerhilfe, 2018b). Welthungerhilfe also lists organizations and institutions as partners for this project. This includes the World Food Programme, Microsoft, GSMA (association representing mobile network operators worldwide), the Federal Ministry for Economic Cooperation and Development of Germany, Happel Foundation, GIZ (German association for international cooperation) and the Boston Consulting Group. Together with these partners Welthungerhilfe is developing the CGM to significantly optimize the detection process.

Using Augmented Reality<sup>7</sup> and Artificial Intelligence, the CGM aims to predict the height and weight of children and thus reliably detect malnutrition. Currently, the app has only been introduced in India. The decision was made in favor of India, because there is a high rate of malnutrition in the country, but also a high level of technical affinities. In addition, the country has a growing economy and is investing heavily in the country's infrastructure (Welthungerhilfe, 2020). However, the app is still in development mode. Due to COVID-19, Welthungerhilfe wanted to publish an early version of CGM – CGM Beta. The social distance at the time of COVID-19 has brought measurement activities to a standstill in many *developing countries*. If children are not measured, they are not identified and treated as undernourished (Welthungerhilfe, 2020).

In order to analyze and evaluate the app, it was decided to perform the SWOT analysis. SWOT analysis is a method of strategic planning. Originally, SWOT analysis is mainly used in business planning and strategy planning. However, since it provides a good overview of the newly developed app, it was decided to use this type of analysis. The SWOT analysis analyzes the strengths, weaknesses, opportunities and threats of a specific project. One of the strengths of the app is that no touch of the child is required and a safety distance of 1.5m can be maintained. This point proved to be an important factor especially during the Corona Pandemic 2019/2020. Furthermore, the app provides better data quality compared to manual handling and follows a standardized method.

One of the weaknesses is that the accuracy is not as high as the mature solution, since the current app is only a beta version. In addition, the tool is not yet fully integrated into the market and there is little information about the success rate of the newly developed app. Another point is that financing for development has not yet been secured.

CGM only offers certain opportunities. So far, there is a shortage of trained professionals. Measurements are not easy and malnutrition is often not recognizable at first glance. The app can be used to remedy the situation. In addition, there is often a lack of the right devices to measure

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<sup>7</sup> Augmented Reality can be described as a technology that superimposes a computer-generated image on the user's view of the real world, enabling a composite view (Definition according to Oxford languages, n.d.).



children meaningfully. The devices are expensive and bulky and are not serviced for long periods of time. The app could counteract this.

The entire manual procedure for detecting malnutrition is error-prone. Diagnosis and monitoring are done manually and there is a risk of data manipulation. Here, too, the app could help.

In addition, only 35 percent of all children are properly measured and treated. Many children are not currently being tested for malnutrition because their families do not send them to the measurements, because they are on the run or are excluded from society. The app can counteract this problem as well, because it works much faster than human measurements.

However, the app also provides certain risks. The measurement of data is carried out by Google Project Tango, while the data processing is done via Google Tensorflow (Welthungerhilfe, 2018a). This should be looked at critically, since Google is repeatedly criticized for collecting data and misusing it (cf. Vielmeier, 2014). Collaboration with Google could be problematic and the possibility of data misuse therefore exists. While the app can help implement the SDGs through the use of AI (Here: Goal 2: Zero Hunger), it must nevertheless be viewed critically. A summary of the results of the SWOT Analysis can be found in the appendix.

#### **4.2 Application: AI and Postcolonialism**

The following section is intended to analyze to what extent AI is characterized by postcolonial structures. As already explained in Section 1.2 there is not yet much scientific literature available on this subject. However, the studies of Rachel Adams and Mohamed et al. were particularly helpful for this field of research.

Mohamed et al. argue that while decolonial studies start from a platform of historical colonialism, they are deeply linked to the “critical theories of race, feminism, law, queerness, and science and technology research” (Mohamed et al., 4: 2020). Furthermore, the role of values and power in relation to technology and data has been argued by a variety of scientists, who draw on both decolonial theories such as Ricourte (cf. Mohamed et al., 4: 2020) and established research in postcolonial and decolonial computing, such as Irani et al. (cf. Mohamed et al., 4: 2020). According to Mohamed et al., such critical perspectives are growingly used to elucidate potential ethical and social ramifications of AI and technology in general. Moreover, in their study, Mohamed et al. argue that for AI technologies problematic results in important areas such as healthcare or criminal justice have shown that dynamic and robust future ethical methods are needed.

A common criticism of data collection is that it does not cover all ethical standards. For example, black women are not sensibly covered by facial recognition methods. This leads to biases. For example, a Chinese facial recognition company has signed a contract with the Zimbabwean government to access the records of the national population register, which depicts the faces of millions of Zimbabweans (Adams, 9.: 2020). This data should be used as a learning curricula to train the company's algorithmic technologies for better detection of black faces. Adams goes on to argue that by reducing the potential for bias, the system would ultimately be more ethical.

Moreover, Vinuesa et al. have also found that AI applications are currently focused on SDG topics, which are particularly relevant to those countries where most AI researchers live and work. For example, they argue that their literature research revealed few examples of how AI technologies are applied to SDG-related topics in countries without a strong AI research. This may prove to be problematic as AI technologies, when designed and developed for technologically advanced environments, also have the potential to exacerbate problems in less prosperous countries (Vinuesa et al., 2020). As an example for this, they refer to food production. This recognition gives rise to serious concern that the development of AI technologies could exacerbate inequalities between and within countries in ways that run counter to the overall objective of the SDGs and thus maintain global imbalances. Furthermore, Vinuesa et al argue that the great wealth that AI technology can create may go mainly to those who are already well educated, while job shifts are worse for others. Globally, the growing economic importance of AI can lead to increasing inequalities worldwide due to unevenly distributed educational and computer resources. In addition, the existing biases in the data used to train AI algorithms may exacerbate these biases, ultimately leading to increased discrimination. Moreover, since many of the AI technologies are developed in countries of the Global North, people from the Global South are often not taught how to use certain AI technologies, which means they do not learn about the "coding language".

Another important disadvantage of AI-based developments is that they are traditionally based on the needs and values of the nations where AI is being developed. If AI technology and big data are used in regions lacking “ethical control, transparency and democratic control, AI could allow nationalism, minority-hating and biased election results“ (Vinuesa et al. , 3: 2020).

### **4.3 Application: Postcolonialism and DevCo**

The EU's development policy is comprehensive and multifaceted. While development policy in general is understood as the political effort of the countries of the Global North to sustainably improve the quality of life of the countries of the Global South, it is important to bear in mind that

these efforts are not always selfless. Development policy also serves to exert political influence, secure economic interests, stabilize individual rule or personal enrichment (Winz, 2009).

As stated before, the implementation of the SDGs is of particular importance to the EU's development policy. While the MDGs were mostly aimed at developing countries, the SDGs target all countries. All 17 objectives are therefore, albeit to varying degrees, equally relevant to all countries. Negotiations on their implementation, however, are still characterized by the North-South axis and development identities are formed along these categories – even though today the terms “Global North” and “Global South” are used as attributes (Menzel, 2018). The SDGs aim to break with this dichotomy of “South” and “North”. However, it should be noted that in politics it is not just facts that matter, but also people's perceptions (Menzel, 2018). This also applies to solving global development problems. Freistein argues that, for the “change in the demand for development, it is important that the sustainability of the objectives pursued can only be achieved if, on the one hand, all people are included and, on the other hand, all relevant actors are involved in the implementation” (Freistein, 37: 2018).

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#### **4.3.1 Case Example: Multiannual Indicative Programme (MIP): Bolivia**

In order to analyze the language of the EU in relation to a development agreement with third countries, it was decided to analyze a specific document and evaluate it from a postcolonial perspective. Since Bolivia is a country with a colonial past and has concluded an agreement with the EU, this country was chosen as a case example.

Despite recent economic progress, Bolivia continues to face major challenges, mainly related to the high inequality in income distribution, the overall low capacity of the country to implement public policies effectively and the pressure on natural resources as part of the development model (European Commission, n. d. ). Bolivia benefits among other things from the Regional Cooperation Programme for Latin America, which amounted to approximately EUR 805 million for the period 2014-2020 (European Commission, n. d. ). The focus is on the link between security and development, good governance, accountability and social justice, inclusive and sustainable growth, environmental sustainability and climate change, and higher education under Erasmus+ (European Commission, n. d.).

The introduction to the Regional Cooperation Programme for Latin America states that the partnership between the EU and Latin America is “based on strong historical and cultural ties, extensive people-to-people exchange, strong and growing trade and investment flows and a deep

foundation of shared values and aspirations (such as the commitment to democracy, human rights and the rule of law, the pursuit of social cohesion and sustainable development)“ (European Commission, 2014). Another agreement exists between Bolivia and the EU and was set out in the Multiannual Indicative Programme (MIP): Bolivia 2017-2020. Here, too, the EU considers itself one of the country’s most important *donors*. The program is divided into three priority areas. These include, on the one hand, judicial reform, the fight against illegal drugs, and the establishment of integrated water management (EU & Plurinational State of Bolivia, 2016). Less corruption and more efficient justice are expected to contribute significantly to better results in the other two areas of EU action. One of the objectives of the agreement is to make the fight against illicit drugs more effective and to improve the implementation of environmental law, which the EU believes depends on effective law enforcement. The measures proposed in the MIP in these areas are thus intended to contribute to the 2030 Agenda and to put into practice the EU approach to financing sustainable development and poverty reduction, as defined at the Addis Ababa Conference in 2015 (EU & Plurinational State of Bolivia, 2016). The MIP also explicitly mentions the objective of implementing some of the SDGs. The MIP refers to combating hunger (SDG 2), ensuring health and well-being (SDG 3), gender equality (SDG 5), ensuring the availability and sustainable management of water and sanitation for all (SDG 6), ensuring sustainable consumption and production patterns (SDG 12), and protecting land ecosystems. systems through conservation and restoration (SDG 15) and the creation of peace, justice and strong institutions (SDG 16).

The promotion of good governance is also mentioned as a key objective of EU development policy, which is crucial for the EU to fight poverty and achieve Bolivia’s Sustainable Development Goals. According to the EU, progress on good governance in Bolivia currently depends to a large extent on successful reform of the justice system and a significant reduction in corruption (EU & Plurinational State of Bolivia, 2016).

The MIP also states that the EU wants to encourage the Bolivian authorities to develop a comprehensive reform strategy while encouraging the engagement of citizens and civil society. A combined approach combining institutional capacity building and the fight against corruption with specific measures is considered to be the best supporting strategy (EU & Plurinational State of Bolivia, 2016).

#### **4.4 From Expectations to Disappointments?**

Ultimately, the purpose of this section is to evaluate the expectations expressed in section 2.5 For this purpose, the three expectations are mentioned again and answered individually.

Expectation 1: *The EU's development policy is largely guided by the UN's SDGs..*

This expectation has been fulfilled. In the course of this thesis, it was repeatedly made clear that international development policy is very strongly based on the UN SDGs. This also applies to the EU's DevCo. This fact was very helpful in carrying out this study, as the literature available in this field mostly deals with the relationship between AI and the SDGs.

Expectation 2: *Countries of the Global North have easier access to AI technologies than countries of the Global South due to their higher modernization.*

This expectation has also proved to be correct, however, this is not only due to more advanced modernization. It became clear that education and financial resources also play an essential role here.

Expectation 3: *The language used in the EU's DevCo policy documents is reproducing global power imbalances.*

The third expectation has been fulfilled. This became clear after a more detailed discourse analysis of the policy papers. The case example of the EU-Bolivia agreement has helped to arrive at this conclusion. Since language shapes human thinking to a large extent, the EU is called upon to revise the language used in such documents.

#### **4.5 Concluding remarks**

Finally, the most important results of this research are presented. The aim is to draw a final conclusion about the relationship between the theory of post-colonialism, AI and DevCo. In addition to the basic information provided in Chapter 2, the analysis also provided case studies illustrating the extent to which the three components can interact with each other.

For this purpose, two of the three components were each connected in an own section and correlations were shown. It became clear that AI can influence aspects of sustainable development. However, it was also shown that AI is indeed shaped by postcolonial structures. At the same time, the EU's development cooperation is also permeated by postcolonial continuities. One of the main aims of this thesis was to make this interaction visible.

## **5 Conclusion**

### **5.1 Answer to the Research Question**

This study addressed the general research question of the extent to which and how postcolonial structures are visible and reproduced in EU documents on DevCo and AI.

After an intensive discussion of the theory and the concepts, a data analysis was carried out, which linked the individual sub-disciplines together.

It can be concluded that postcolonial structures are reproduced in EU documents on DevCo and AI. Above all, it must be noted that language has a significant influence in the reproduction of postcolonial structures. In particular, the EU's policy documents relating to DevCo have made this very clear. The EU refers to itself several times as the largest *donor* of development *aid* and deliberately avoids acknowledging the legacy of colonialism. This lack of acknowledgement of guilt also makes clear that the EU continues to maintain global power imbalances. As several postcolonial scholars have pointed out, postcolonialism affects every aspect of our daily lives (Castro Varela & Dhawan, 2010). This was also confirmed, as postcolonial structures can already be found in AI, which can still be considered a relatively new development. These structures became visible both in the data collection and in the coding language used to explain many new developments in AI. Here, it is of central importance not to leave the people of the Global South behind and to let them participate in the still ongoing learning process.

Vinuesa et al. have summed it up nicely: “Diversity is one of the most important principles of innovation and societal resilience, which will be crucial in a society that is exposed to the changes associated with the development of AI“ (Vinuesa et al., 3: 2020). It is important to bear in mind that social resilience is also promoted by decentralization, i. e. the use of AI technologies adapted to the cultural background and specific needs of different regions. Moreover, diversity can only help in the development of new achievements and provide a decisive advantage when it comes to developing the future of the world.

### **5.2 Strengths and Weaknesses**

The following section discusses the strengths and weaknesses of the study. The contribution to science can be clearly described as a strength. This thesis dealt with three different elements and linked them together. There has not yet been any study of these elements in relation to each other. The composition of the individual disciplines has proved to be helpful. The Secondary Research

approach has also proved to be helpful, as the knowledge already found has been put in a new light and has thus contributed even more to the exciting body of knowledge in these policy fields. However, there are also weaknesses. One weakness is that this work has been largely confined to language and writing, but not to active action by the EU. Furthermore, the analysis of the literature and policy documents described here is not sufficient to provide a complete overview of the research area. This is partly due to the fact that a comprehensive analysis would not have been possible within the scope of this thesis. However, the following section offers suggestions for further research.

### **5.3 Suggestion for Future Research**

As stated in the beginning, this study fills the research gap in the interaction of the three components AI, DevCo and postcolonialism. Thereby, this thesis has found evidence of postcolonial power relations, which are visible in the EU's policy documents on AI and DevCo. However, this study has limitations and give thus suggestions for future research. On the one hand, only a certain number of policy documents were examined, but these are not sufficient to represent the full scope of the problem stating. Unfortunately, it was only possible to address individual aspects in the context of this study. Thus, the focus in the policy documents was only on language; in order to gain a better understanding of the extent of EU postcolonial action, it would be useful to carry out a further study, including an analysis of EU action. Particularly since the EU proclaims itself to be the "guardian of human rights", the unequal treatment of countries on the basis of their development status seems questionable.

Moreover, this thesis dealt with the EU as an institution in general. Future research could also conduct a detailed analysis of the respective development and AI policies of the particular Member States and compare them with each other. It would also be possible to conduct an explicit comparison between the policies of the respective countries and those of the EU as an institution. This might also be interesting to see to what extent differences occur. Such research would build up an even greater body of knowledge and would be useful for further research.

### **5.3 Practical Implications**

Finally, this study provides numerous opportunities for stakeholders for practical implications. As a key aspect, it should be noted that postcolonialism occurs in all areas of life and perpetuates global power imbalances. People in positions of power should try to counteract this at the political level in any case. In terms of postcolonial AI, it can be said that all actors involved should counteract the

structures that already exist, for example by building a common AI that involves all countries equally. The EU as an institution also has much to improve in this area. For instance, it could change the language in its official documents as not to reproduce these imbalances. In addition, a recognition of the colonial heritage would be an appropriate start for many formerly colonized states.



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## 7 Appendix

### Appendix 1: Glossary

AI	-	Artificial Intelligence
CGM	-	Child Growth Monitor
EU	-	European Union
DevCo	-	Development Cooperation
GIZ	-	Deutsche Gesellschaft für Internationale Zusammenarbeit (German association for International Cooperation)
HEG-AI	-	High Level Expert Group on Artificial Intelligence
IoT	-	Internet of Things
MDGs	-	Millennium Development Goals
MGI	-	McKinsey Global Institute
MIP	-	Multiannual Indicative Programme
NGO	-	Non-Governmental Organization
UN	-	United Nations
SDGs	-	Sustainable Development Goals

### Appendix 2: Sustainable Development Goals (SDGs)



(United Nations (2021). The 17 Goals. Department of Economic and Social Affairs. Retrieved June 18, 2021 from <https://sdgs.un.org/goals>.)

### Appendix 3: Coding Scheme

Concept	Code	Key Words
Postcolonialism	Maintenance of power imbalances  (-> How are power imbalances maintained by the using of the following key words?)	<ul style="list-style-type: none"> <li>- Countries of the Global South,</li> <li>- Countries of the Global North,</li> <li>- <i>Developing countries</i>,</li> <li>- Hegemony,</li> <li>- <i>Aid</i>,</li> <li>- <i>Development aid</i>,</li> <li>- Decolonization</li> <li>- Colonialism,</li> <li>- Imperialism,</li> <li>- Inequality</li> <li>- Power/ Power structures</li> </ul>
Policy of Artificial Intelligence	Modern technology  (-> to what extent and how contribute the following key words to the development of technological progress?)	<ul style="list-style-type: none"> <li>- Artificial Intelligence/AI,</li> <li>- Policy of AI,</li> <li>- AI and the EU,</li> <li>- Technical process,</li> <li>- Fourth Revolution,</li> <li>- Modernization</li> <li>- Future of the world</li> </ul>
Development Cooperation	International cooperation on sustainable development  (-> to what extent and how are the following key words contributing to the implementation of sustainable development?)	<ul style="list-style-type: none"> <li>- Development Cooperation,</li> <li>- Development Policy</li> <li>- Development Theories</li> <li>- Modernization theory &amp; Dependence Theory</li> <li>- <i>Development aid</i></li> <li>- SDGs,</li> <li>- MDGs</li> </ul>

### Appendix 4: SWOT- Analysis

<b>S</b> (Strengths)	<b>W</b> (Weaknesses)	<b>O</b> (Opportunities)	<b>T</b> (Threats)
<ul style="list-style-type: none"> <li>- no touching of the child required;</li> <li>- Keeping a safe distance of 1.5 m is possible</li> <li>- Better data quality</li> <li>- Standardized method</li> </ul>	<ul style="list-style-type: none"> <li>- Accuracy not as a high as fully developed solution</li> <li>- Funding for development not secured yet</li> </ul>	<ul style="list-style-type: none"> <li>- faster than human measurements</li> <li>- More accuracy</li> </ul>	<ul style="list-style-type: none"> <li>- higher risk of data misuse</li> </ul>