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Bachelor Thesis

A Latin-American AI-alternative?

A discussion about patterns of coloniality and decoloniality in the
Latin-American AI-discourse

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Abstract

This paper investigates the existence of language patterns pointing towards coloniality, and patterns representing decolonial notions implemented in the Latin-American discourse of Artificial Intelligence (AI). In this sense, it asks whether the AI-discourse of the region can be considered an alternative to the AI-implementation of the Global North, by examining included as well as excluded stakeholders, the kind of prioritised actions and ideologies mediated to their reader by applying a content analysis in a case study. The analysed policy documents of Chile, Colombia, Uruguay and Mexico as well as the summary of the Latin American AI summit of 2020 mainly reflect patterns of coloniality due to the high relevance of capitalism, nation-state narratives and global dependencies. However, the importance and portrayal of actions regarding the cooperation of the Latin-American region imply important first steps towards a decolonial process.

Key words: Latin-America, coloniality, Artificial Intelligence, decolonial theory, content analysis

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1. Introduction

1.1. Background

“Whoever becomes the leader in [the] sphere [of Artificial Intelligence] will become the ruler of the world” (Horowitz, 2018), is what Vladimir Putin, President of Russia said in 2017. Artificial Intelligence (AI) is and will be able to influence on the one side domestic power relations and on the other side, the international balance of power, such as the global competition over the worldwide leadership in AI, primarily between the United States (US) and China. Nevertheless, AI and AI-strategies are primarily dominated by the global north and can be categorised as a phenomenon of the Global North. Since the beginning it's a source of political, economic and social power, prosperity and wealth.

However, AI-Strategies and AI-technology emerges all over the world, also in the Global South. Primarily Latin-American countries are developing AI-strategies themselves. The first national AI-Strategy in Latin-America appeared in 2018 in Mexico, the same year that a similar concept emerged in places such as Germany and even one year before the Netherlands (Secretaría de Economía & IA2030Mx, 2020). Since then, a few other Latin-American countries such as Chile and Colombia have published their own AI-Strategies.

Simultaneously, the importance and impact of postmodern, antiracist and intersectional criticisms and discourses have increased within the spheres of science, politics as well as in other public discourses of the 21st century. This comes with a change of inter- and subjective thought, as well as political, economic and societal change.

That raises the question of how those Latin-American strategies seem and why those Latin-American AI-discourses are neglected in the global competition for AI-leadership. Other points of debate can be raised as well, such as whether the Latin-American AI-discourse is just a reproduction of the AI-Strategies of the global north or whether there actually is a Latin-American alternative of AI. Moreover, one must also ask if such a newly developed potential instrument of power is already adopting the global demands for global justice and decolonialization. Or does the implementation of AI in Latin-America come with a perpetuation of the constant reproduction of the (mostly) failed processes of decolonialization after the European colonialization of the Latin-American continent that resulted in colonialization of power, knowledge, identities and system of thoughts (see Panarica del Sur, n.d.)?

1.2. Research Problem

As already shown above, Western research on the national and domestic influence of AI and its political, economic and social power mostly focuses on liberal and Western democratic countries (exceptions here are internationally leading countries in AI research such as Israel and China) and their management of AI, especially considering factors like transparency, accountability, and ethical guidelines. On the contrary, countries from the Global South are not taken into consideration as often as Western nations.

Furthermore, there is plenty of research regarding AI as a power phenomenon in the international context

that highlights the possibility of AI to “obscure asymmetrical power relations in ways that make it difficult for advocates and concerned developers to meaningfully address during development” (Mohamed et al., 2020 pp.662). Nevertheless, in Western research culture, the discourse of AI as a phenomenon of power in Latin-American societies is rather restricted. Furthermore, decolonial theory and its power mechanisms is not represented strongly in the Western discourse primarily due to the delimitation between the decolonial scope and the relationship between postcolonial and hegemonic world centres, such as Europe and the US (Garbe, 2013; Mignolo, 2006).

The discourse dealing with the relationship between AI and colonial power structures as well as decolonial implications, is relatively small. Only a limited amount of research deals with the relation between coloniality and data such as Ricaurte (2019) and Couldry and Mejias (2019), while the scope regarding the creation of ‘decolonial AI’ (Mohamed et al., 2020) or whether ‘decolonial AI’ is actually feasible (Adams, 2021) is new and the relationship between AI and coloniality has not been fully researched yet (ibid). Moreover those studies tend to extend the concept of decoloniality on global disparities. Additionally, they tend to focus on recommendations for a decolonial AI as they consider AI as an instrument which is used in order to maintain colonial power structures, even if this specific issue has not been fully researched yet.

Due to that, this research aims to fill this scientific gap between the theoretical assumption of AI being an instrument of colonial power and the actual extent to which that is the case. Specifically, it will analyse on the one side, whether the Latin-American AI discourse has already adopted decolonial notions and how decoloniality is planned to be implemented in the discourse and the other side, if and how coloniality is actively enforced when talking about AI in Latin-America, in order to understand to a bigger extent how coloniality and AI are entangled. Furthermore, in contrast to previous research, this paper shall solely focus on AI and the management of AI in Latin-American countries, which has not received much attention as other parts of the Global South (see: Adams, 2021).

Consequentially, this paper will attempt to answer the question *to what extent the Latin-American AI-discourse represents a decolonial alternative or a contribution to the perpetuation of the colonial status quo and reproduction of the AI-discourse of the Global North.*

1.3. Research Approach

In order to answer this research question, this interpretative research will first provide an introduction to the main assumptions and concepts of decolonial theory, as well as language as a measurement tool for colonialism as well as decolonialism. This should generate a groundwork so as to explain how colonial patterns can abide themselves in language. Moreover AI will be described from a decolonial perspective, focusing on AI as a possible mechanism of colonial reproduction.

Additionally the socio-economic phenomenon described in the theoretical background needs to be measured. Typically, policy documents as well as other official documents provide a solid case which allows one to analyse power phenomena. When applying critical theories such as postcolonial or decolonial studies in

research, the use of critical discourse analysis and content analysis, where language patterns are investigated through the development of a coding scheme, have proven themselves most useful (Santis, 2020). This thesis is focusing on whether AI and the way AI is handled perpetuated colonial power patterns or if decolonial viewpoints have already impacted this recent phenomenon, which is why a content analysis is far more suitable for data analysis. With that in mind, the AI-discourse of countries is portrayed accurately within academic AI-Strategy papers of democratic states. Therefore, analysing the language of a specific case of Latin-American AI Strategies and other official documents seems appropriate, in order to understand how colonial or decolonial language patterns are manifested in Latin-American AI Strategies.

The analysis of the language patterns will provide answers to three separate questions: *Firstly, which stakeholders are involved in the AI Strategies?* The inclusion or exclusion of specific stakeholders and the way that those choices are motivated in AI Strategies, reveals important insights about the way of thought and attitudes towards decolonial aspects. Furthermore, it uncovers preferences regarding the administrative and institutional structures, which also indicates the direction of AI-implementation in Latin-America. It is crucial to draw the attention to the main actors included in the decision-making process, as the exclusion of minorities can be retraced to colonial belief systems.

Second, what kind of actions are being discussed or implemented? Colonial and decolonial actions are substantially different from one another. By analysing which kind of action is prioritised in the national strategies, it becomes clear what kind of AI governance is expected to be the proper one. Moreover, the active implementation and prioritisation of specific doings can even further illustrate tendencies of ones ideological convictions.

Finally, which issue or ideology is being mediated to the reader of the AI Strategies? The usage of specific words and formulations can be very helpful in order to understand the thoughts and ideologies of individuals. Decolonial and colonial ideology can be clearly distinguished and be crucial to identify core convictions and naturalised belief systems, revealing oppressed though regarding subjectivity as well as intersubjectivity. Furthermore, it can reveal tendencies towards specific kind of actions and behaviour. The examination of issues will help to further strengthen findings regarding actors as well as their actions, or put previous findings into perspective.

In correlation with the assumptions of the decolonial point of view, this will also provide answers to the question regarding what these language patterns in the selected AI-Strategies imply from a decolonial perspective, which will finally help to draw conclusions about the role of AI in the decolonial context at the end of the paper.

2. Theoretical Framework

As this research will examine Latin-American AI-strategies from a decolonial perspective, it is crucial to first describe what decoloniality is and how it emerged. Principally, decoloniality is a critical concept that was developed primarily in Latin-America and emerged in the late 1990s with the creation of the collective modernity/coloniality (m/c), an accumulation of Latin-American intellectuals with similar alternative viewpoints (Garbe, 2013). It strongly correlates with primarily post-colonial studies, but also Marxist and subaltern studies. Primarily, it describes the persecution of colonial power structures implemented since the ‘discovery’ and conquest of the American continent in 1492, which have spread to all the aspects of modern life and sphere of values (Mignolo, 2018a; Panarica del Sur, n.d.).

The main concepts and beliefs of decoloniality are coherent with the main claims of post-colonialism, such as the criticism of the Eurocentric perspective¹ in global politics, economics, science as well as notion of normality (Castro Varela, 2017). This similarity also becomes clear as in the beginning, the creators of the decolonial notion (collective m/c) tried to develop a post-colonial discussion with a Latin-American viewpoint (Garbe, 2017).

Nevertheless, it is crucial to understand the most important differences between those two scopes. Firstly, they can be distinguished due the different experiences between Iberian colonialism and Northern European colonialism². Second, decolonialism focuses primarily on Latin-America and the Latin-American viewpoint, while post-colonialism refers to all the formerly colonised countries (Castro Varela, 2017; Garbe, 2012; Garbe, 2013; Garbe, 2017)³. Thus, applying decolonial theory when analysing possible colonial power mechanisms in Latin-American countries seems appropriate.

With that in mind, the following sections will address the core propositions and the central ideas of decolonial theory, coloniality and decoloniality. Furthermore, it is crucial to outline the significance and possible effect of AI from a decolonial perspective on the decolonial status quo. This implies that AI needs to be analysed as a phenomenon which reproduces colonial domination patterns. Finally, language as a mechanism of reproduction of a status quo will be introduced. Language is one of the main mechanisms, which facilitates the possibility to maintain or change power patterns. This is why the idea of decolonial and colonial language will be introduced, followed by a theoretical conclusion.

¹ decolonial theory is denouncing the viewpoint of Eurocentrism, a concept with Europe as the centre of the world or civilisation due to its high importance of Europe in times of the Industrial Revolution and European colonial empires. Nevertheless, Mignolo (2018c) relates to Hegel’s notion of the “[US] being the future of Europe of her time” (2018c pp.187), relating to Europe in a Eurocentric perspective and to the US as the hegemonies power it inherits today. This is why the term *Western-centrism* is appropriate when discussing phenomena of the fourth Industrial Revolution.

² this argument addresses the certainty of different form of resistances, state-building processes and different ways of colonial domination

³ other differentiating arguments tend to be questioned (see: Castro Varela 2017; Garbe 2012).

2.1. Coloniality, decoloniality and Latin-America

Decolonial theory deals with the colonial matrix of power, which is an ideology from one selected community of one religion (here Christianity), living in Europe (also see ¹⁾, that has been in a process of self-definition and distinction between that self-definition of ‘the human’ and ‘the other’. ‘The other’, which is the non-European, non-Christian, is ascribed a natural inferiority, that distinguishes ‘the inferior human’ (Mignolo 2018b pp.153) from the self-defined humans (see: Mignolo, 2018b; Quijano, 2000a).

Decolonialism is a process. It is crucial to understand, that decoloniality does not describe a fixed or immutable condition with a specific point of enlightenment, but the incremental exposure of this imperial belief system, including a consciousness for its aftermath (Mignolo, 2006; Walsh, 2018).

As this colonial matrix of power is manifested and reproduced since the 15th century until today, decolonial theorists speak of a decolonial status quo which can be explained through the concept of ‘coloniality⁴ of power’ by Aníbal Quijano (2000a). The concept is concerned with the historical formation and merging of two different and initially independent centre lines describing the Eurocentric and capitalistic form of domination (Castro Varela, 2017; Quijano, 2000a).

The first centre line is the construction of the ‘idea of *raza*⁵’, which explains the social classification of the population along racial characteristics due to the self-distinction between ‘the human’ and ‘the other’, as mentioned above (see Garbe, 2013; Mignolo, 2018b; Quijano, 2000a). Those racial attitudes are acknowledged worldwide, they are Eurocentric, naturalised and are reproduced in all spheres of knowledge, which also can be called ‘coloniality of knowledge’ (see Garbe, 2013; Mignolo, 2018c). Yet, not only social classifications are a result of the Western expansion of knowledge. Western ways of thought such as rationality and reason, as well as science as a way to enlightenment were implemented worldwide and together with the globalised system of capitalism as it is known under the term *modernity* (Mignolo, 2018a; Santis, 2020).

Quijano’s concept names the capitalistic global division of labour as the second centre line which is established on the ground of the ideology of ‘the other’. He defines capitalism as the hegemonic concept, managing the relations of production (Quijano, 2000a). Furthermore, he claims that the newly created identities within this new global control system, which are based on the distinction between ‘the human’ and ‘the other’, are leading to a permanent structural connection between division of labour and this artificially constructed differentiation (Quijano, 2000a). In other words, there is a connection between the imperial

⁴ coloniality (in difference to colonialism) is the term for present colonial forms of domination and oppression, while colonialism refers to the actual time of colonial rule and administrative system (Grosfoguel, 2002; Quijano, 2000a; Adams, 2021)

⁵ the term *raza* defines a artificially constructed belief system and modern social instrument of domination that descends from the thought of a difference between in the biologies of humans (as mentioned above, the distinction between the European- christian self-definition of the human and the other). This research will primarily work with the term of ‘the other’, in order to paraphrase the ideology of *raza*, as as the term implies different connotations in the English language area and Quijano employs the term in a critical and conscious way (see also Quijano, 2010).

thought of natural distinction between ‘the human’ and ‘the other’ and capitalism, even if the two centre lines are initially not dependent from one another.

Moreover, the mutual reinforcement results in the development of a consequent and structural racial division of labor within the capitalistic system. In that sense, Mignolo also refers to the term ‘*economic coloniality*’ (Mignolo, 2018c). With time, this specific kind of capitalism has spread all over the world and embedded itself as the global division of labour, creating global dependencies between regions of the Global North and regions of the Global South, which are ongoing until today (Quijano, 2000a; Wallerstein, 2004). An example for the mentioned global dependence was the industrialisation in Latin-America on grounds of import substitutions (Quijano 2000a).

Recent ideologies, such as neoliberalism, which embrace a more *modern* form of capitalism carry out colonial patterns, albeit in a more obscured way (Grosfoguel, 2002; Quijano, 2014; Ruddle, 2016).

In this context, coloniality of power also focusses on the failed processes of decolonisation in times of the independence of Latin-American states, resulting in coloniality in administration and institutions. Today no actual or successful process of decolonisation has taken place in Latin-America, which is why decolonial theorists use the term ‘independent states with colonial societies’, referring to the presence of coloniality in every sphere of existence and as a description of the Latin-American status quo (Quijano, 2000a).

Finally, decoloniality is the process of uncovering coloniality of all the spheres of value, followed by the process of creating distinctions of perspectives and other possibilities of existence and understanding apart from *Western rationality* (Mignolo, 2006; Walsh, 2018). This also includes excluded perspectives, as well as the importance of social justice, intercultural dialogue and cooperation in order to create another perception of existence (Quijano, 2014; Walsh, 2018).

2.2. AI as a phenomena of colonial reproduction

Consequently, man-made inventions (unintentionally) strengthen and reproduce the interdependence between *raza* and division of labour. This can be observed in every time period. In times of the fourth Industrial Revolution, Benfield (2010) calls out digital technology as the coloniality of power. AI, as a technical invention or “the simulation of human intelligence processes by machines, especially computer systems” (Harkut, 2019), can be seen as further development of digitalisation and simultaneously as one of the instruments of colonial power. As described by Mohamed et al. (2020), AI has the possibility to further cloud asymmetrical power relations, such as the relationship between former colonised and coloniser, ‘the human’ and ‘the inferior human’ or the European and non-European. Adams concludes that AI

“is an invocation to make intelligible, to critique, and to seek to undo the logics and politics of race and coloniality that continue to operate in technologies and imaginaries associated with AI in ways that exclude, delimit, and degrade other ways of knowing, living, and being that do not align with the hegemony of Western reason” (2021 pp.190).

In other words, AI is able to maintain the decolonial status quo within societies. In theory, ideas primarily regarding development, novelty, science, rationality or secularity (such as AI) are not bound to the culture of the Global North. Nevertheless, the decolonial perspective argues that big discoveries and their implementation in every historical era are linked to the Western societies due to their hegemonic role in the current age of technological development which consequently reproduces the decolonial status quo (Quijano, 2000a). In the case of the further development of AI, Lee (2017) states that economically speaking, AI can lead to the continuance of deepening economic dependencies between ‘developing states’ and industrial Western states, as AI is a phenomenon of power created by the Global North. He is convinced that AI is able to deepen the global economic inequality.

2.3. (De-)colonial reproduction through language

Finally, it is important to describe how colonial patterns can be reproduced. Coloniality of power has expanded to all spheres of values and is constantly being reproduced and manifested by mechanisms such as politics, economics, cultures, identities or subjectivity and language. In other words, the classifications and distinctions humanity makes are expressed and recorded in language (Mignolo, 2018c pp.180).

Nevertheless, colonial patterns of language are difficult to identify because former Imperial languages such as English, Spanish, French or Portuguese spread around the globe since 1492 and implemented themselves through generations into cultures and identities.

Still there are various colonial patterns that can be identified and whose legitimacy can be questioned. Coloniality of language can be described as mechanisms or structures of language that exclude or subordinate ‘the other’. An example is the implementation of English as the ‘world language’ or even the existence of a ‘world language’ itself. Also, terms like ‘emancipation’ or concepts such as the Western ‘democracy’ are examples of colonial language patterns (Mignolo, 2006).

Additionally, language is also able to rewrite historical patterns of domination. The idea of decoloniality comes with a change of language. Thus, language accumulates decolonial approaches that uncover one-sided colonial structures and try to redefine and relearn grammar patterns (Mignolo, 2006). Language is therefore a tool to observe processes of decolonialization of existence and knowledge. In contrast to colonial language, decolonial language is embossed by concepts and grammar that do not reproduce connotations that base themselves on the colonial belief system.

2.4. Concluding remarks

All in all, coloniality is a naturalised global imperialist belief system with historical origin which spreads to all the spheres of value. It deals with social classifications based on a Eurocentric distinction between what can be defined as human and what can be defined as ‘the other’ in times of colonialism, which facilitated other kinds of Western expansions such as modernisation processes and Western philosophy. Furthermore, the ideology of ‘the other’ intertwined itself with the capitalistic system of labour division, creating global dependencies between the Global North and the Global South which are active until today. Coloniality is

further reproduced by various mechanisms such as language or the capitalistic division of labour and naturally adopted and reproduced by everything created by humans such as education or technology. Given that AI and technology as such are influenced by the actors and institutions developing them, the *theoretical expectations* of this research implies the coloniality of AI.

In contrast to coloniality, decoloniality is an approach to uncover this belief system and challenge Western-centric perspectives, in order to create possibilities of existence and knowledge apart from Western rationality and reason. There are scholars engaging with the idea of decolonial technological progress, such as decolonial data or decolonial AI, which implies that technological phenomena such as AI are likely to reproduce colonial patterns of domination (Milan & Treré, 2019; Mohamed et al., 2020). Hence it can be assumed that power phenomena such as AI can be used as another tool for implementation and reproduction of this colonial structure of domination. Nevertheless, decolonial notions are increasing and implementing a general understanding of the universality of colonial power structures.

3. Methods

AI can be seen as an instrument of power. This research is focused on measuring if and how AI is reproducing colonial patterns of domination of the Global North or if AI is part of the decolonial process and helping to uncover colonial power structures. As AI is a phenomenon of the fourth Industrial Revolution, it is important to investigate how AI in Latin-America can be made researchable for a deductive qualitative research approach. This research will apply a content analysis in a case study. As shown by Kohlbacher (2006), case studies are able to create a more comprehensive point of view, while the content analysis is a solid way of data analysis and interpretation, especially when it comes to critical theories. In the following section, a specific case will be described. Then, the method of data collection will be presented and finally, the method of data analysis will give an answer to the question how a content analysis will analyse the previously described case.

3.1. Case description

A case study is able to examine specific phenomena (here AI) within their setting over time. Nevertheless, a case study requires the appliance of multiple sources of the data in order to draw holistic conclusions (Kohlbacher, 2006). This implies that a thorough data description and selection is needed. Firstly, it is essential to select a Latin-American case when analysing the impact of AI in Latin-America.

The case which shall be analysed is Latin-American official governmental documents, such as AI Strategies, of democratic Spanish-speaking countries which have been written since 2018. In the world of AI, governmental institutions and research or educational institutions such as universities and tech-firms seem to name the most important stakeholders, as they construct the AI-discourse. Also Latin-American based tech-firms are a very important stakeholder regarding AI-Strategies. Nevertheless, this research focusses on cases with representative functions for Latin-America. In democratic states, governments are responsible for that kind of representation.

In democratic Latin-American countries, national AI-Strategies are primarily developed by ministries of technology and innovation such as in Chile, Colombia and Mexico. In the decision-making process with issues relating to AI, also Advisories and other Agencies can be important stakeholders of a countries' AI Strategy, which is the case in Uruguay or Colombia. Those actors tend to include different experts specialised in relating issues and topic, in order to provide informed and precise decisions or recommendations for future proceedings of the government in a specific discourse.

Furthermore, this research will focus on the content of those policy documents, specifically language patterns. The specific use of language, words and formulations reflects the users preferences and way of thinking. This is why those language patterns indicate forms of coloniality and decoloniality, which will be reconstructed and uncovered in the strategy papers, and further analysed. This implies the selection of one language. Due to the Iberian colonialization of the Latin-American continent, Spanish can be seen as the officially most spoken language in this region, which implies a focus on Spanish speaking Latin-American

countries. This way, differences between the different AI-Strategies become more visible and their comparison is based on an equal baseline.

Nevertheless, national AI-Strategies are not the only way to measure AI. Panels, speeches and other ways of communication and interaction can form a significant case. In order to not draw data only from the government but also from the Latin-American institutions and experts for a more objective interpretation and result, this research will also analyse the summary of the Latin-American AI Summit (LATAM AI) which provides information about the state of the art of AI in Latin-America, different panels and most importantly recommendations for the Latin-American governments. The first LATAM AI took place in the US with educational and governmental leaders in Latin-America and personnel from the MIT and Harvard in 2020. The Summit was aiming to share the state of development of AI and the positive and negative impacts that AI has on the society, and on economical and political issues.

In conclusion, this analysis will examine language patterns, regarding colonial and decolonial stakeholders, actions or belief systems of the national AI-strategy papers of Mexico, Colombia, Chile and Uruguay and the summary of the first LATAM AI in 2020.

3.2. Method of Data collection

In order to investigate whether AI and AI-Strategies in Latin-America are just reproductions of colonial patterns established by the imperialist powers in times of colonialism and perpetuated by the Global North in the Age of AI, specific data have to be collected.

This research is going to investigate official policy documents and the official summary of the LATAM AI in 2020. Those documents have been chosen so as to get an adequate insight of the portrayal of AI in Latin-American countries.

On the one side, the chosen official policy documents such as national AI policies are primarily concerned with the regulation and innovation of AI in the society, national management apparatus and economy of the countries. On the other side, the summary of the AI Summit covers primarily the most important aspects of the panels and presentations of the conference and concludes the most important policy recommendations for policy makers in Latin-America. Including the summary is very important because it includes the opinions of the AI-experts and societal leader in other spheres such as education in Latin-America, which strengthens the diversity of opinions and ideas of the dataset and the possibility of an objective analysis.

This research will focus only on available documents since 2018 until today⁶. In 2018, Mexico was the only Latin-American country which published a national AI Strategy, while other governments in Latin-America published between 2019 and 2020. This explains why all selected documents have been published in the last

⁶ today as in the starting point of this research which is the 01.03.2021

two years⁷. Furthermore, when talking about the size of the data, the amount of paper per document varies from seven pages to 143 pages per document. Still, the data set contains a total of 567 pages over nine documents.

The documents are accessible by the public and published by ministries such as the ‘Ministerio De Ciencia, Tecnología, Conocimiento E Innovación’ (MCECI) of Chile or the ‘Secretaría de Economía’ de Mexico, or even projects of ministries such as ‘Transforma Uruguay’ (TU). But as well agencies such as the Digital Government Agency in Uruguay (Agesic), councils like the National Council of Economic and Social Politics of Colombia (CONPES), or consortia of institutes, companies and other stakeholders such as ‘AI2030Mx’ in Mexico published important policy documents in cooperation with the responsible government.

In contrast to the policy documents in the data set, the summary of the LATAM AI 2020 was published by the faculty of law of the University of Buenos Aires and its recommendations are not binding nor legally relevant for the Latin-American governments. Nevertheless, the participants of the Summit can be considered important and representative for the public as well as experts and other stakeholders of the Latin-America AI-discourse, which is why a consideration of its recommendations can be considered important for the public image of Latin-American governments.

Finally, the national AI-Strategies will be retrieved from policy observatory (OECD.AI) which cultivates the national strategies and policies regarding AI and Digitalisation, while the summary of the LATAM AI is provided by AI Laboratory of the Argentinean Institute Justice (ialab.com.ar). Together those documents will generate a provisional collection of data which is going to be analysed in this research and can be reviewed under Appendix I and are organised after countries.

3.3. Method of Data Analysis

In this research, the selected data set will be analysed and then interpreted by applying a qualitative content analysis. This section will work out the main objectives of a content analysis, as well as its application on ground of the theoretical framework in order to analyse the data set (Appendix I). Also, the logic of the developed coding scheme will be described and potential threats will be identified.

A content analysis allows to access large textual data sets in an unbiased and systematic way. Furthermore, it tolerates an operationalisation of abstract critical concepts and applying critical theories to specific contents such as AI-Strategies. Also, a content analysis is primarily aiming for the extension or improvement of already existing theories, such as the relationship between AI and decolonial theory. Additionally, software programs are able to facilitate the analysis of large amount of data, wherefore *atlas.ti* will be used in this research.

In order to make use of a content analysis it is important to develop a coding scheme which translates the

⁷ the data set of this paper contains three documents from 2019, five from 2020, and one without date

abstract concept of decoloniality into observable dimensions. A coding frame aims for a systematic selection of the important aspect of the data set (Santis 2020). Then those dimensions are narrowed down into specific codes (Appendix II), creating the observable and researchable pattern describing colonial structures and reproduction. The coding scheme thereby includes words, possible formulations but also ways of expressions, and notions of ideological language patterns.

Afterwards, the dataset will be checked for those codes and the findings will be interpreted whether the dataset entails colonial structures or not and what this implies for the acquisition of AI in the selected Latin-American countries.

Considering the abstract and critical frame provided by decolonial theory, a versus-coding is a suitable approach. This kind of affective method is used primarily in political analysis such as critical studies and policy studies because it reveals the dichotomies between a selected standard and a variance of this standard (Saldaña, 2013).

It is crucial to understand, that in a decolonial perspective, colonial language patterns represent the standard code, as those patterns have implemented themselves since centuries and are naturalised, representing the norm or our 'normal language' (Mignolo, 2006).

Furthermore, the coding scheme has been developed specifically for this case of AI in Latin-American countries, which have been colonised in the past. This implies that the codes and language used in the coding scheme is adapted to the data by first, the tongue that is used in the selected documents, and second, by acknowledging their story and choosing specific codes that only apply to Latin-American language.

Overall, versus-coding leads to three essential results: "Stakeholders, Perceptions/Actions, [and] Issues" (Saldaña, 2013 pp.117). It identifies which actors are actively struggling for power, how specific goals are represented and how issues are reflected. From the discussed issues and involved stakeholders, possible notions of societal transformation become visible. For an easier understanding, the coding-scheme follows this order and splits the main concepts into the categories *stakeholders*, their *actions* and finally their ideological standpoints or *issues* (Appendix II).

First, stakeholders transferring patterns of coloniality primarily represent hierarchical structures, as well as nation-building and -state narratives and related codes. At the same time, stakeholders inheriting decolonial patterns are primarily represented by notions of non-hierarchical thinking and other alternative form of government opposing neoliberal structures.

Second, actions have been primarily subdivided in actions towards competitive behaviour as well as actions following a Eurocentric mindset, which tend to promote coloniality versus actions promoting intercultural dialogue and (primarily) regional cooperation, as important decolonial tendencies.

Finally, issues or tendencies towards specific mindsets addresses the subjective and intersubjective forms of coloniality such as social classifications or scientific rationality, as well as capitalistic values as such. In

contrast, a decolonial mindset is described with notions of decolonial reasons or the existence of decolonial pedagogy.

However, literature advocates to use conceptual tensions for research with established theoretical background as thoroughly shown above (ibid). In this research, conceptual tensions are the previously defined asymmetric colonial power relationships that manifested themselves in language, which is what is going to be coded.

Finally, there are potential threats that need to be taken into account. First, there is always the possibility of biased information which could veil the outcomes. Furthermore, validity and reliability of the used coding scheme and the data is hard to measure. Lastly it is important to avoid groupthink and subjectivity of research and knowledge. Those threats will be encountered by using versus coding, in order to analyse more than one viewpoint, and the inclusion of various kinds of documents. Moreover, this research doesn't claim to be absolute.

3.4. Concluding remarks

Concluding, this research is a qualitative content analysis in a case study, focusing to gain insights of the AI-Strategies of Latin-American countries and the Latin-American AI Summit. Specifically, the AI-Strategies of Chile, Uruguay, Mexico and Colombia will be analysed as they are Spanish-speaking countries, and are officially ruled by a democratic regime. In order to do so, a coding scheme has been developed to specifically find answers to which stakeholders are involved in the regional AI-discourse, what actions are primarily implemented or prioritised and which kind of ideology is followed in their argumentation. This will help to illustrate and identify colonial as well as decolonial structures, in order to draw conclusions whether the Latin-American AI-discourse can be called an alternative to Western AI-discourses.

4. Analysis

In the following section, the results of the empirical analysis based on colonial and decolonial notions will be presented and interpreted. First, the presented stakeholder as well as the notions of governance mentioned in the AI Strategies will be described, compared and explained with the help of decolonial viewpoints. Afterwards, already implemented actions and possible actions discussed in the AI Strategies will be examined and finally the subliminal notions of specific ideologies found in the Strategies will be presented and discussed from a decolonial perspective.

Those steps are necessary to find an answer to how colonial and patterns are manifested in AI Strategies and what they imply. The comparison between colonial and decolonial structures in this section will contribute to the response of whether AI in Latin-America can be considered to represent an alternative to global AI discourses.

4.1. The inclusion and exclusion of stakeholders

Decolonial thinkers work increasingly towards the decentralised governance, as well as the deconstruction of hierarchies, as they obscure historical power structures, including colonial administrative patterns (Quijano, 2000a; Santis, 2020). Nevertheless, neoliberal nation-building narratives have been prevalent in the recent present, contributing to the manifestation of colonial power patterns (Quijano, 2014).

	Chile n ₁ = 47	Colombia n ₂ = 125	Mexico n ₃ = 73	Uruguay n ₄ = 129	Latam AI n ₅ = 74
Total 1: colonial stakeholder	59,57 %	84,80 %	54,79 %	74,42 %	59,46 %
→ thereof Governamentality	57,45 %	60,80 %	50,68 %	51,54 %	22,67 %
→ thereof identified hierarchies	2,13 %	24,00 %	4,11 %	23,08 %	37,33 %
Total 2: decolonial stakeholder	40,43 %	15,20 %	45,21 %	25,58 %	40,54 %
→ thereof alternative governance	38,30 %	14,40 %	41,10 %	15,38 %	30,67 %
→ thereof identified heterarchies	2,13 %	0,80 %	4,11 %	10,00 %	9,33 %
Totals (Total 1 + Total 2)	100,00 %	100,00 %	100,00 %	100,00 %	100,00 %

Table 1: analysis results regarding (de-)colonial stakeholder

As can be observed in *Table 1*, colonial stakeholders have been detected twice as many times as decolonial stakeholders, all documents considered. Nevertheless, some countries tend to include more language pointing to colonial stakeholders than others, which is why a more in-depth view is necessary.

Overall, when inspecting Mexican and Chilean documents, it becomes clear, that their amount of decolonial stakeholders is not as high as for example documents from Uruguay or Colombia. At the same time, the amount of identified stakeholder representing decolonial alternatives, is balanced between all countries and initiatives. Still this could imply, that Mexico and Chile don't tend to focus on decolonial forms of governance, but just did not name or provide as much colonial language patterns or connotations to describe the important stakeholder in their documents.

4.1.1. The Administrative State

First, it was unexpected to find a focus on a centralisation of the administration in the Uruguayan documents. As discussed in the Uruguayan Strategy papers, the implementation of an administration based on data is highly prioritised as it is seen as crucial for the digital future (Agesic, 2020, Agesic, 2019; TU, 2019). Nevertheless, an administration that is based solely on data implies a big risk of further reproducing historical power relations such as colonial administrative relations (Santis, 2020). Decolonial authors suggest an administration which should focus on people and their opinions, with the possibility of decentralisation and local administration in order to create more public participation and promote actual democratic values and institutions autonomous from Western influence (Adams, 2021; Santis, 2020).

In that context, *Transparency* has also been mentioned often in every analysed document (Secretaría de Economía & IA2030Mx, 2020; MCECI, n.d.; Anllo et al., 2020; CONPES et al., 2019; CONPES et al., 2020; Agesic, 2020; Agesic, 2019; TU, 2019). On the one side, transparency of administration, institutions as well as governments is crucial for the decolonial process and real democratic structures. On the other side, the importance of transparency as a concept has increased over the recent decade and serves as a description of institutional processes where fully transparent decision making is not given. This implies that, even if transparency has been mentioned multiple times, there is a difference between transparency for economic reasons and transparency for the public (Coronil, 2000 pp.62).

4.1.2. The ideology and exclusiveness of the *citizenship* manifested in stakeholders

At the same time, nation-state narratives have been identified not only in the Mexican documents, but in all the selected strategies. They form the most used language pattern when it comes to stakeholders. For example, Colombian documents tend to focus on *citizenship* and *sovereignty* (CONPES et al., 2019; CONPES et al., 2020, DNP et al., 2020), which could imply, that Colombia promotes an inclusion of neoliberal stakeholders, but at the same time excludes stakeholders that are not included in the notions of nation-state and citizenship such as indigenous people (Quijano, 2014).

As illustrated by Quijano, the idea of the citizenship is one of the characteristics describing the “modern Nation-State” (2000b pp.2). In other words, frequency and endless repetition of words such as *citizen* and *citizenship* can be interpreted as the naturalisation of the ideology of the *citizenship*. This neoliberal way of thought clearly marks capitalistic values and actions and promotes the involvement of stakeholders following the same mindset, while pursuing inter- and subjective nationalist and colonial forms of domination (Mignolo, 2018a Quijano, 2000a; Quijano, 2000b). The mindset has been sighted in every analysed document (Secretaría de Economía & IA2030Mx, 2020; MCECI, n.d.; Anllo et al., 2020; CONPES et al., 2019; CONPES et al., 2020; Agesic, 2020; Agesic, 2019; TU, 2019). Nevertheless, Latin-American countries have a tormented history, which is why the equalisation of nationalism/conservatism and neoliberalism is not as easy as in other countries. In contrast to countries of the Global North, national cohesion in Latin-America can be considered essential for survival (Quijano, 2000a).

Uruguay also poses a very exclusive decision-making process as it is spoken about: *Advance until the achievement of an omnichannel strategy of services for the citizenship, which proposes a homogeneous, inclusive experience of high quality* (Agesic, 2020 pp.4). In this example one could argue, that the *homogenous experience* is only a possibility for people in Uruguay, defining themselves as *citizens* which aligns with the identification and interpretation of the exclusiveness of the *citizenship* described above. This categorical and structural classification of people automatically excludes other possible stakeholders and people who live in Uruguays' territory but don't acknowledge nation-state narratives (Quijano, 2000a; Quijano, 2000b).

When talking about exclusivity, it is also important to mention that the AI Strategies of Colombia assign an important role to the World Economic Forum (CONPES et al., 2019; CONPES et al., 2020; DNP et al., 2020), a summit that is known for its exclusiveness for worldwide leaders. Even though international exchange can be considered important, the exclusivity of this summit and focus on economical viewpoint promotes global hierarchies and structural inequalities which contradicts decolonial values (Graz, 2003). Also, Mohamed et al. (2020) and Adams (2021) emphasise that national AI Strategies from the Global South are influenced by this stakeholder, maintaining discrepancies between the Global North and the Global South.

To conclude the detected exclusivity could imply the exclusion of possible actors such as minorities, with indicates a possible coloniality of AI. Even tough this is consistent with the theoretical expectations, their actual value and importance will be further researched.

4.1.3. The inclusion of minorities as stakeholder

The naturalisation of neoliberal mindset of the *citizen* poses the question whether people and societies, that don't define themselves as citizens of a nation-state, are mentioned and included in the decision-making process. When talking about minorities in Latin-America it is crucial to focus amongst others on the indigenous population and the protection of their rights as human beings. Nearly every Latin-American country has an indigenous population. Even though the biggest settlements of indigenous tribes can be found within Mexico and Colombia, only Mexico mentioned this minority in their AI-Strategy (Secretaría de Economía & IA2030Mx, 2020).

Furthermore, Mexico is the only country that focuses on alternative forms of governance in order to avoid discrimination and to protect the rights of its minorities, as well as the active inclusion of multiple stakeholders and actors for a pluralistic informed decision making process in several pages (Secretaría de Economía & IA2030Mx, 2020). Furthermore they argue that:

The construction of an AI-Strategy is crucial for the contribution of the development of a state, not only ethically and responsible from a social viewpoint, with regard to the human rights, but also from a political viewpoint, intrinsically democratic (Secretaría de Economía & IA2030Mx, 2020:73),

which describes a more inclusive understanding of the role and impact of a government for its society. Still, those illustrated efforts of the authors of the Mexican AI-Strategies, have remained theoretical until now. Also, the summary of the LATAM AI implies decision-making through consensus, which can indicate the wish for a reduction of hierarchical decision-making and the desire for a heterarchic and inclusive governance (Anllo et al., 2020).

Concluding some actors representing decolonial approaches have been discovered. Still, the majority of stakeholders found in the documents represent the further implementation of coloniality. Hence, the examination of concrete actions is necessary in order to draw clear conclusions about possible first steps towards decolonial mindsets.

4.2. Coloniality of actions regarding AI-implementation

When talking about actions taken in correlation with AI and the implementation in AI in Latin-America, an overall view shows clear tendencies of colonial actions. As presented in *Table 2*, colonial actions or implications for colonial actions have been found more than three times more than notions of local or regional or international cooperation and actions towards an intercultural dialogue. This result is also mirrored in the individual documents of the selected countries. The most outstanding findings have been narrowed down and interpreted in the following.

	Chile n ₁ = 187	Colombia n ₂ = 279	Mexico n ₃ = 337	Uruguay n ₄ = 223	Latam AI n ₅ = 180
Total 1: colonial actions	74,46 %	89,96 %	79,53 %	85,65 %	75,00 %
→ thereof competitive behaviour	52,55 %	53,02 %	26,07 %	48,90 %	22,58 %
→ thereof Eurocentric processes	21,91 %	36,94 %	53,46 %	36,75 %	52,42 %
(→ thereof English words)	6,12 %	29,89 %	46,42 %	13,22 %	23,66 %
Total 2: decolonial actions	25,54 %	10,04 %	20,47 %	14,35 %	25,00 %
→ thereof Intercultural dialogue	6,12 %	1,78 %	7,74 %	2,20 %	3,76 %
→ thereof Regional cooperation	17,86 %	8,19 %	12,03 %	12,33 %	21,51 %
Totals (Total 1 + Total 2)	100,00 %	100,00 %	100,00 %	100,00 %	100,00 %

Table 2: analysis results regarding (de-)colonial actions

4.2.1. Implications of foreign word usage and global dependencies

Firstly, the amount of English nomenclature for specific words in all analysed documents has been unexpectedly high. In the Spanish documents, English words were used that are globally acknowledged in the AI-discourse such as “deep learning” (Secretaría de Economía & IA2030Mx, 2020; MCECI, n.d.), “machine learning” (Secretaría de Economía & IA2030Mx, 2020; MCECI, n.d.; Anllo et al., 2020) or “Internet of Things” (Secretaría de Economía & IA2030Mx, 2020; CONPES et al., 2019; CONPES et al., 2020; DNP et al., 2020; Agesic, 2020), but also general terms such as “Trustworthy AI”; (Secretaría de Economía & IA2030Mx, 2020) have been used where Spanish translations exists and are used in the Spanish-speaking community.

A possible explanation for that could be the advancing process of Globalisation. As illustrated by Quijano, the increase and further implementation of capitalism, as well as the continuance of coloniality are part of the process of Globalisation (2000b pp.14). This interaction and co-dependence of coloniality and capitalism is also typical for the continuance of modernity (Quijano, 2000a; Mignolo, 2018c). Therefore, the high amount of English nomenclature could be evidential for the continuance of economic coloniality, as Western concepts seemed to be adopted and naturalised in the Latin-American AI Strategies, forming an oppressed perspective through the repetition of Western development and progress (ibid). This argument can be backed up with the observation, that several English words, found in the analysed documents, describe mostly administrative and economical concepts used in Western Countries⁸.

If that is the case, it would also be visible through other notions of Eurocentrism and the adaptation of the capitalistic process (Quijano, 2000a). Specifically, the document would show viewpoints that constantly confirm Western actions regarding the implementation of AI, as well as the idea to achieve progress through competition and elitist thinking, which needs to be discussed further.

In comparison to other non-Western countries, specifically countries of the Global North have been named as a starting reference or comparison several times (TU, 2019; Secretaría de Economía & IA2030Mx, 2020; CONPES et al., 2019; CONPES et al., 2020; MCECI, n.d.). Specifically, the US, the European Union as such or specific Member States such as France, have been mentioned and described as references for good AI implementation (ibid), such as in this example, where the main implementations of AI regarding the infrastructure are summarised:

- (i) the construction of infrastructure of data and the increase of the speed of “megabits” per second -for example the “5G” net which is linked with the AI of the United Kingdom [...];
- (ii) the development of infrastructure of “hardware” which optimises the stream of algorithms -as the neuromorphic computation in the United States [...];
- or (iii) the allotted infrastructures of the hyperscale type (cloud) -as it could be the one that contemplated France (Anllo et al., 2020 pp.28f)

Furthermore, taking actions towards a primarily economic investment of Western countries into the region is shown to be of great importance (MCECI, n.d.; CONPES et al., 2019). From a decolonial point of view, the importance of the Western investment in the region implies an affirmation of Western societies as the standard, which can be linked to the maintenance of a Eurocentric worldview (Mignolo, 2018c; Quijano, 2000a).

As can be observed in the following example of Chile’s prioritised actions, the success in the global AI-discourse is linked with the attention of Western countries. This strengthens the argument of the confirmation of Western success, as well as the viewpoint of Western countries, as superior in the process of AI-development:

⁸ examples are: “accountability” (MCECI, n.d.); “Framework” (Anllo et al., 2020); “Open Banking” (Secretaría de Economía & IA2030Mx, 2020); “Marketing” (Secretaría de Economía & IA2030Mx, 2020; TU, 2019) “Marketplace” (DNP et al., 2020)

It will promote the investment of enterprises of AI at an identical or superior level than the mean of OECD and at the top ranking of the region. This is something that countries have accomplished with appropriate strategies such as Israel, which approached to the investment of the European Union (MCECI, n.d. pp.45).

To conclude, tendencies towards colonial behaviour have been identified from a decolonial viewpoint. The usage of foreign words implies an adaptation of the Eurocentric worldview, which is connected with the continuance of global dependencies, further strengthened the theoretical expectations.

4.2.2. The role of competitive actions

Continuing, notions of competitive behaviour have been found in a much bigger extent than expected, while different kind of actions of competitiveness have been identified. On the one side, even the segmentation of the document can be considered to be competitive behaviour such as the ranking within two separate Colombian documents (CONPES et al., 2019; CONPES et al., 2020). On the other side, active actions of competitiveness have been identified, stating the priorities implementation of such actions. For example Chile listed under the first priorities following:

Because of that, one may not only put the focus on enhancing and incrementing talents, but also on generating a stable environment which is able to offer competitive opportunities of academic and professional development (MCECI, n.d. 2020 pp.35).

This example shows the kind of prioritisation, which has been identified in nearly every document. Competitions are seen as a way of increasing efficiency (Anllo et al., 2020). Specifically, the implementation of AI tends to be connected with an increase in efficiencies, as well as market-oriented actions (CONPES et al., 2019; Anllo et al., 2020). Furthermore, it was visible, that in some countries such as Uruguay, competitive actions were not only implemented nationally but also global rankings and standing were seen as highly important, as it was mentioned a few times (Agesic, 2020; TU, 2020).

Actions towards the increase of efficiencies, as well as the importance of global rankings can be interpreted as other characteristics of the global capitalist system or *economic coloniality* (Mignolo 2018c), as national and international competition is seen as a way to lead the global AI-discourse. Furthermore, the fact that the Western AI-discourse of European countries and the US constantly repeated in Latin-American AI Strategies (MCECI, n.d., Secretaría de Economía & IA2030Mx, 2020), can be interpreted, that the Western discourse is actively approved by the editors. From a decolonial perspective those findings are coherent with the argument of the confirmation of Western success and their role as world-leader, as described before (Mignolo, 2018c; Quijano, 2000a). This mindset comes with an acceptance of the Western-centric worldview and its universality (ibid).

Nevertheless, it is important to note, that competitiveness as such is not automatically negative, but the number of competitive actions that have been identified in the documents can be interpreted as if the prioritised actions in the field of AI and its implementation in the Latin-American region, is expected to be

achieved through the allocation of capitalist competitive behaviour. This mainly contributes to rank-thinking, the creation of an exclusive elite and increasing neoliberal individualism.

Concluding, the high priority for the implementation of competitive and capitalistic actions which have been conspicuous in the selected documents show tendencies towards the further acknowledged of Western-centric ideas, which reproduce colonial patterns. This is coherent with the active affirmation of Western ideas and actions explained above. The importance of capitalism and the prioritisation of actions which promote capitalist values is an important indicator for the internalisation of coloniality the AI-discourse, which goes along with the theoretical expectations.

4.2.3. Regional cooperation as a Latin-American originality

It is important to note, that competitive actions and notions of regional cooperation don't contradict each other, as for example showed in Uruguayan documents by announcing regional competition (Agesic, 2020; TU, 2019), or the AI Summit summary, calling out for healthy regional competitions (Anllo et al., 2020). Nevertheless, regional cooperation can also rely on other factors that are not necessarily capitalistic values and still achieve a productive outcome. Most importantly the wish for regional collaboration and solidarity has proven to be crucial for the Latin-American continent in times of crisis and forms a part of the Latin-American identity.

As can be observed in *Table 2*, actions involving regional cooperation are favoured in the Latin- American AI discourses, which is unexpected. The LATAM AI speaks of the necessity of regional cooperation, in order to create successive results in the discourse of AI and its implementations (Anllo et al., 2020 pp.87). For a decolonial AI, Mohamed et. al (2020) emphasises the existence of local and regional designs, while paying attention to pluralistic and inclusive ideas, which is why regional and local cooperation is crucial for the decolonial turn.

Nevertheless, when decolonial theorists argue for local collaboration and administration, they demand a “process of transferring legal, administrative, and territorial power from colonial hands to indigenous local governments” (Adams, 2021 pp.179). Hence, at least the inclusion of indigenous people is crucial, when talking about local and regional cooperation. As mentioned above, the inclusion of indigenous people is harshly restricted due to the adopted nation-state narratives. Notwithstanding, actions towards regional cooperation of local or regional institutions or the buildup of regional initiatives apart from the nation-state could be a first step towards a decolonial AI, which have been suggested by the LATAM AI (Anllo et al., 2020).

All things considered actions towards regional corporation have been identified which, at first sight, can be interpreted as actions with a more decolonial faith. When taking a closer look, it was noticeable that the main idea of the inclusion of minorities in Latin-America is crucial for a ‘decolonial’ regional corporation which

needs to be ensured. All in all, *the way* that tendencies towards actions with regional cooperation in Latin-America are portrayed, represent a possible alternative to the AI-discourse of the Global North. To further investigate this interpretation, the findings regarding issues have to be examined.

4.3. Coloniality of knowledge as an ideology

Finally, results regarding specific mindsets and ideologies will be presented and interpreted. As has been shown in the previous pages, ideological behaviour can be visible through the integration or exclusion of specific stakeholders, as well as their actions or prioritised implementation plans. Regardless, ideological ideas can also be observable through the use of specific words, representing a particular way of thought. As presented in *Table 3*, there have been several words or formulations, which indicate a more colonial way of thinking. Yet, notions of decolonial thinking have also been identified, which will be interpreted in the following.

	Chile n ₁ = 165	Colombia n ₂ = 399	Mexico n ₃ = 331	Uruguay n ₄ = 232	Latam AI n ₅ = 235
Total 1: colonial issues	72,12 %	83,96 %	56,80 %	75,43 %	60,85 %
→ thereof ‘scientific rationality’	22,16 %	29,35 %	32,24 %	25,32 %	26,47 %
→ thereof capitalistic values	49,10 %	53,48 %	22,99 %	48,93 %	30,25 %
→ thereof social classifications	1,20 %	1,00 %	1,19 %	1,29 %	3,78 %
Total 2: decolonial issues	27,88 %	16,04 %	43,20 %	24,57 %	39,15 %
→ thereof decolonial reason	25,15 %	15,92 %	29,55 %	22,75 %	26,05 %
→ thereof pedagogy	2,40 %	0,25 %	14,03 %	1,72 %	13,45 %
Totals (Total 1 + Total 2)	100,00 %	100,00 %	100,00 %	100,00 %	100,00 %

Table 3: analysis results regarding (de-)colonial issues/ideologies

4.3.1. The importance of capitalistic values and coloniality

Firstly, the number of capitalistic values implemented in the analysed documents was as high as expected, due to the high amounts of actions representing capitalistic behaviour as analysed above. Nevertheless, this is congruent with the findings of capitalistic based actions or plans for the national implementation of AI as discussed above.

When talking about capitalistic values, the analysis has shown mostly that efficiencies and as well as ideas regarding optimisation represent a meaningful part of the analysed documents (Anllo et al., 2020; MCECI, n.d.; Secretaría de Economía & IA2030Mx, 2020; TU, 2019; Agesic, 2019; Agesic 2020; CONPES et al., 2019; CONPES et al., 2020; DNP et al., 2020). Capitalistic values in correlation with the global national standing have also been found to be more important than expected (TU, 2019), also visible in the following example:

Due to that reason, if Colombia doesn’t prepare for these changes approach on a global level, it could fall behind in value chains, not share the global economic growth and it could not be an attractive country for the

foreign investment, which represents low levels of growth, defer the development and the prosperity of the country (CONPES et al., 2019 pp.36/37).

Furthermore, it was visible, that a lot of words have been used such as ‘ofertar’ or ‘provedor’, which further implement and strengthen the same ideological viewpoint as the identified actions towards capitalistic behaviour, which has been illustrated in the last subsection. This goes along with the argument, that the idea of the further implementation of capitalism in order to create success is deeper than just the implementation of specific ideas. It can be called a naturalised way of thought. When analysing this argument from a decolonial perspective, it is important to allude, that the colonial mindset is deeply entailed with capitalism (Quijano, 2000a). This implies that, following the ideological standpoint of capitalist thinking automatically comes with a continuance of the oppression of ‘the other’, the subjective and intersubjective, as well as other characteristics of human life (Mignolo, 2018b).

On the whole, it has become clear, that capitalistic values are widely acknowledged in the selected documents, which implies a market-oriented mindset and in decolonial theory can be interpreted as the naturalisation of capitalism as the ultimate form of labour division, which automatically comes with the acceptance of the status quo of economic coloniality and further strengthens the argument regarding the importance of capitalistic actions, consistent with the theoretical expectations of AI perpetuating coloniality (Quijano, 2000a).

4.3.2. The further ideological implementation of global dependencies

It is crucial to further analyse the ideological implications of global dependencies. As described by Quijano (2000a), the connection between capitalism as the global system of labour division and the ideology of ‘the other’, created and further maintains global dependencies. As has been mentioned before, when analysing capitalistic actions, it has been identified, that some Latin-American actions were aligned with the Western standard of the implementation of AI, and Western countries have been primarily used as a comparison (Secretaría de Economía & IA2030Mx, 2020; MCECI, n.d.).

When examining the way some ideas were formulated in the selected documents, more Western references and perspectives have been found (Secretaría de Economía & IA2030Mx, 2020; CONPES et al., 2019; DNP et al., 2020; MCECI, n.d). The amount of reassurance of European or US-American progress, further strengthens the argument that the ideological path of Western AI-implementation has spread towards the analysed region and continues to be acknowledged to be the universal solution for AI development and implementation.

Nevertheless, from a decolonial perspective, this could further naturalise global dependencies, as non-Western alternatives of AI-implementation are not as widespread. As the only country, Mexico includes some non-Western perspectives such as approaches from “China, South Korea and Taiwan” (2020 pp.23),

regarding the handling of emerging situations, although the amount of Western perspectives named in the Mexican AI-Strategy is incomparably high in relation to angles of non-Western societies (Secretaría de Economía & IA2030Mx, 2020).

Even regional progresses or the AI development from neighbouring countries are not mentioned as much as AI- implementation ideas of European States (MCECI, n.d., Secretaría de Economía & IA2030Mx, 2020). This also becomes clear in this example:

In an establishment of similar ideas, one distinguishes that difference countries have already started to approve specific legislations regarding cybersecurity in “5G”, where the cases of the United Kingdom, France, Italy and Switzerland stand out; while countries such as Germany, the Netherlands and Spain already encounter processes of the inclusion of elements of cybersecurity for 5G inside of their normative framework (Secretaría de Economía & IA2030Mx,2020 pp.29).

From a decolonial perspective this could be interpreted as the continuance of the Western-centric worldview. Furthermore, as the Western progress is much more confirmed and repeated, than the regional or non-Western progress, it again reinforces the previous argument of consider the Western AI-discourse to be the universal standard, which further perpetuates global dependencies as well as the subjective and intersubjective worldview of Western countries with universal knowledge.

This leads to the conclusion due to the amount of affirmation of Western progress, global dependencies are still perpetuated and the AI-discourse of the Global North is subjectively accepted as the leading debate. This also strengthens the theoretical expectations as well as the findings of the last subsection, highlighting the tendency of Latin-American actions regarding AI to be imitating the Western AI- progress, as they have been presented to be universal. In order to not overestimate this interpretation, it is highly important to further investigate the existence of other evidence of coloniality and decolonial progress before jumping to conclusions.

4.3.3. Western rationality versus decolonial reason

As has been mentioned before, the idea of the rational and logical thinking is part of the European way of life. The idea that development, or specifically AI, is firstly only achievable through logic and modern reason, and secondly is seen as a possibility for human enlightenment is not only a Western-centric thought, but also defined as a problematic way of thinking (Santis, 2020). In the same sense the implementation of the rational thought as the only way of knowledge is one of the main criticisms of decolonial theorists (Mignolo, 2018a; Quijano, 2000a; Santis, 2020; Grosfoguel, 2002). As shown in *Figure 3*, a lot of formulations and words have been found that can be interpreted as signs for this kind of Western rationality. Especially in the Colombian and Mexican documents, the amount of evidence pointing towards modern reason were higher than expected. Colombia talks about politics of AI needing to be “based on [economic] evidence and

metrics” (CONPES et al., 2019 pp.21), or in other words, politics based on logic and mathematical facts. Also, the idea of the systematic approach with standardised actions, technology and methods (see Agesic, 2019; TU, 2019; Secretaría de Economía & IA2030Mx, 2020; Anllo et al., 2020; CONPES et al., 2019; CONPES et al., 2020; DNP et al., 2020; MCECI, n.d.) is visible in every document.

In decolonial terms, it is well known, that this kind of logic and rational thinking can be interpreted as coloniality of knowledge. Santis (2020) explains the Western rationality to be one of the main parts of modernity. Modern rational thinking is an attribute of a civilised society following European ideal and forms part of colonial emancipation processes (Mignolo, 2018a).

Notwithstanding, Quijano clearly opposes social justice to instrumental rationality (2014 pp.618). This implies that words or formulations pointing towards a more historically sensitive and inclusive approach need to be named as well. For example, the LATAM AI clearly pointed out the importance of man rights and human dignity (Anllo et al., 2020).

Relating to the Latin-American history, the LATAM AI points out the importance of processes of collective reflection, not only in correlation with technological progress, but also the specific Latin-American characteristic such as ‘pueblos originales’ as well as diversity (Anllo et al., 2020). This can be interpreted as an important and large step towards heterogeneity and inclusion as well as the rethinking of the homogenisation processes worked out by Quijano (2000a). Nevertheless, it is important to note, that the LATAM AI does not represent one specific state and from the AI-Strategies from the selected countries, only Mexico refers explicitly to human rights, and other important ‘decolonial’ stakeholder as mentioned before (Secretaría de Economía & IA2030Mx, 2020).

Finally, words and formulations have been found which could be interpreted to be an indicator for the ideology of Western rationality. At the same time, some the interregional AI Summit, and Mexico have been presented ideas, which show a Latin- American examination of its history and the importance of human rights and social justice. However, this notion has not been identified by the large majority within selected national AI-Strategies. Therefore, this notion of decolonial thought can be interpreted to be an important step towards social justice, which needs to be identified by all Latin- American Nation States first.

4.4. Concluding remarks

Finally, the main findings and most important interpretations of this research will be presented here. This will allow this paper to draw a final conclusion about the correlation between coloniality, decoloniality and the Latin-American AI discourse.

Overall, it was unexpected, that the neoliberal ideology of citizenship is so widespread among Latin-American societies and governments. This high level of exclusivity is also reassured due to the fact that in most instances there exists an exclusion of Latin-American minorities, specifically indigenous societies. This implies that mostly actors promoting colonial values have been actively implemented in the AI-discourse

until now.

Moreover, capitalist ideas and actions have been found to a large extent, which from a decolonial perspective highly promote colonial ideologies. In correlation with that, the constant reassurance of Western development and progress has been substantially high. When talking about AI and AI-implementation in Latin-American countries it was noticeable that primarily European AI-implementation has been illustrated as a role model, which has also been detected when analysing ideological language patterns. This attempt of imitation can be interpreted as the further maintenance of global dependencies and the global domination of the Global North and its hegemonic position. From a decolonial standpoint, the high amount of Western affirmation which is also reflected in the high usage of english-words and the constant repetition also stands for a tendency towards colonial ideologies which is being mediated to the reader. All of the arguments above clearly confirm the theoretical expectations of the maintenance of coloniality in AI-discourse.

Notwithstanding, there have been some interesting findings, that point towards a first step into a decolonial AI-implementation. First, the idea of regional cooperation when it comes to AI and the way actions towards regional collaboration are formulated can be interpreted as a Latin-American peculiarity. Also, the non-governmental case introduced an important step towards the decolonial process, by respecting the Latin-American history and its trajectories and calling out for social justice. All in all, it has been proven, that decoloniality is not a fixed state, nor a point of enlightenment: it's a long process.

5. Conclusion

5.1. Latin-American Alternative of AI?

The Latin-American AI-discourse is marked with primarily decisions, implementation plans and ideas, which represent a perpetuation and entanglement with colonial patterns of domination.

This is visible through the further existence of global dependencies when it comes to AI. The subjectivity as well as the intersubjectivity can be interpreted to be obscured through colonial power mechanisms and hierarchies, which are affective globally as proved with the existence of global dependencies. Nevertheless, those colonial power mechanisms are also effective intra-socially. Arguments for this interpretation are the existence of neoliberal ideologies of *citizenship*, as well as the active exclusion of minorities such as indigenous people.

The high significance of capitalistic actions and capitalistic ideas in the Latin-American AI-discourse is also indisputable. From a decolonial point of view, this implies the further perpetuation of colonial administrative patterns, as worked out in the theoretical framework.

Nevertheless, one characteristic of the Latin-American AI-discourse has been identified to be unique and alternative to the discourses of the Global North: the importance of regional cooperation and dialogue between the Latin-American societies, which is clearly stated in nearly every document (Anllo et al., 2020; MCECI, n.d.; CONPES et al., 2019; CONPES et al., 2020; TU, 2019; Secretaría de Economía & IA2030Mx, 2020).

5.2. Implications for future research

As stated in the beginning, this paper filled the gap between the theoretical expectations of AI being an instrument of colonial domination on the one side, and the extent to which that this is actually the case on the other side. Furthermore, recent studies have focused on other regions of the Global South, while this research has focused only on the Latin-American region. In contrast to other research, this research has found actual evidence for the primarily colonial power relations which are still active in the region. Furthermore this research has brought up new information about the way that coloniality and AI are entangled, on the base of Adams research (2021). In contrast to Milan and Treré (2019), Couldry and Mejias (2019), this research describes not only the necessity for a decolonial turn, but identifies the importance of regional cooperation for Latin-American AI implementation as the first step to a 'decolonial AI', as described by Mohamed et al. (2020).

Also this research opened the doors to many different future studies when it comes to AI and decoloniality on a qualitative basis. Firstly, it would be interesting to compare the language of AI-Strategies from countries of the Global North, with the ones of Latin-America. This would give answer to what extent the interpretations of global dependencies in this research are cogent in an international context. Second, the contrast of the AI-discourse between the Latin-American region and other regions of the Global South would also give important implications for this scope.

Further interregional research nevertheless remains important. The inclusion of other AI-Strategies and discourses from the region, independent from language and form of government would be interesting. Also, it is crucial for future studies, to further analyse the extent of the actual regional cooperation in the region. Lastly, as this research only drew data from primarily government-near stakeholders in Latin-America, only political implications have been analysed and taken into account. Hence research regarding practical AI-implementation can be important.

5.3. Practical implications

At last, it is important to discuss the most crucial implications for policy makers in Latin-America. Altogether the orientation of future AI-discourses in Latin-America can be adapted to the implications of decolonial AI from Mohamed et al. (2020) and the concepts narrowed down adequately in Adams' research regarding decolonizing AI (2021). Still, three main practical implications are presented in the following which are based solely on this research and the Latin-American region and represent the most crucial first steps that need to be taken.

Firstly, the *(1) inclusion of minorities, as well as the recognition of their existence* is highly significant. This implies firstly a critical, radical and immediate engagement with the colonial history of the region, as well as thereby produced consequences known today as racism, sexism, the exclusion or even murder of especially indigenous people, of each and every stakeholder included in the decision-making process of AI in the region. The process of informing and education can normally be supported by local experts, human rights activists or other actors whom have dedicated their work to represent or support minorities. Second, the active creation of a dialogue with the representatives of minorities must take place, where policy makers need to actively listen, include and respect minorities and their rights, as well as their priorities. Thirdly, the inclusion of minorities in the decision-making process needs to be implemented. Furthermore, control mechanisms for human rights need to be included, in order to ensure at least primary values such as safety and dignity for minorities. That way also actions which tend to promote values such as humanity and inclusion instead of elitist and capitalism-based societies will be further implemented in the future.

Afterwards, there needs to be a focus on the *(2) further development of regional and local cooperation* in the Latin-American region. The importance of Latin-American cooperation has been made clear in the policy documents. Still, there needs to be more concrete and sustainable actions which further strengthen the collaboration and dialogue in the region. This implies not only the dialogue between different institutions and universities, but also the creation of intraregional institutions specialised on AI implementation, -education, -ethics and -development. Summits such as the LATAM AI form a very important first step in that direction. This entails the expansion of the Summit, as well as the creation of other different possibilities of interaction and dialogue. Afterwards, one may think about the possibility of the development of concrete actions following the recommendations of the Summit, which need to be implemented by the governments.

Finally, in order to create a real Latin-American AI-discourse, it is important to *(3) degenerate the region*

from its dependency of the Global North. In order to create alternatives to the already existing AI-discourses and to become an actual global competition it is important to disengage from the ideology, that that Western development and inventions as well as their way of implementation is universally correct and unique. In order to so, first a reflexion process is necessary in order to recognise Latin-American peculiarities, to later work out Strategies that are based on those special characteristics and intensifies them.

6. References

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7. Appendix

7.1. Appendix I (Data Set)

Uruguay:

Agestic (2019) *Política de datos para la transformación digital* [Politics of data for the digital transformation]. https://www.gub.uy/agencia-gobierno-electronico-sociedad-informacion-conocimiento/sites/agencia-gobierno-electronico-sociedad-informacion-conocimiento/files/documentos/publicaciones/Politica%20de%20Datos%20para%20la%20Transformaci%C3%B3n%20Digital%20-%20vfinal_0.pdf

Agestic (2020) Plan de Gobierno Digital 2020. Transformación con equidad [Plan for the digital government 2020. Transformation with equity] <https://www.gub.uy/agencia-gobierno-electronico-sociedad-informacion-conocimiento/politicas-y-gestion/plan-gobierno-digital-2020>

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Chile

Ministerio de Ciencia, Tecnología, Conocimiento e Innovación/MCECI (n.d.) *Política Nacional de Inteligencia Artificial. Borrador/ Consulta Pública* [National Strategy for Artificial Intelligence. concept/ public consultation] https://www.minciencia.gob.cl/legacy-files/borrador_politica_nacional_de_ia.pdf

Mexico

Secretaría de Economía; IA2030Mx (2020). Agenda Nacional Mexicana de Inteligencia Artificial [National Mexican Strategy for Artificial Intelligence] <https://ia-latam.com/wp-content/uploads/2020/09/Agenda-Mexicana-de-IA-2020.pdf>

Colombia

Consejo Nacional de Política Económica y Social/CONPES; Presidencia de la República de Colombia; Departamento Nacional de Planeación/DNP (2019). *Estrategia Política Nacional de para la Transformación Digital e Inteligencia Artificial* [National Strategy for the Digital Transformation and Artificial Intelligence] https://siteal.iiep.unesco.org/sites/default/files/sit_accion_files/11134.pdf

Consejo Nacional de Política Económica y Social/CONPES; Presidencia de la República de Colombia; Departamento Nacional de Planeación/DNP (2020). *Política Nacional de Confianza y Seguridad Digital* [National Strategy for Trust and Digital Security]. <https://www.csirtasobancaria.com/publicaciones/conpes-3995-politica-nacional-de-confianza-y-seguridad-digital>

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AI Latin-America Summit 2020

Anllo, G.; Corvalán, J. G.; Costilla-Reyes, O.; Enciso T.; Gaytan, F.; Le Fevre, E.; Martínez Mancilla, Y.; Mata Tapia, S.; Paredes M.; Vega Servín, M.(2020). *Cumbre de Inteligencia Artificial de América Latina 2020* [Summit for Artificial Intelligence of Latin-America 2020]. United States: Banco Interamericano de Desarrollo, Instituto Tecnológico de Massachusetts, Laboratorio de Innovación e Inteligencia Artificial de la Facultad de Derecho de la Universidad de Buenos Aires, Organización de las Naciones Unidas para la Educación, Ciencia y Cultura, Rimac Seguros y Reaseguros

7.2. Appendix II (Coding Scheme)

STANDARD/ COLONIAL CODE	DESCRIPTION	VARARIANCE/ DECOLONIAL CODE	DESCRIPTION
STAKEHOLDER			
Hierarchical organisations & institutions (Grosfoguel, 2002; Santis, 2020; Quijano, 2014)	<ul style="list-style-type: none"> - hierarchal orders, imbalances by authority and choice; - division of power 	Non-hierarchical organisation & institutions (Grosfoguel, 2002; Mohamed et al., 2020)	<ul style="list-style-type: none"> - ways of heterarchic thinking - Affective and political communities
Governmentality/ Nationstate (Grosfoguel, 2002; Quijano, 2014; Santis, 2020)	<ul style="list-style-type: none"> - signs of gobernabilidad (Quijano 2014) - Signs of individualism - Signs of nation-building narratives 	Alternative forms of governance (Quijano, 2014; Santis, 2020)	<ul style="list-style-type: none"> - Forms of ‘civil government’ and deconcentration - Participative Governance including <i>everyone</i>
ACTIONS			
(Eurocentric processes) (Quijano 2000a; Wallerstein; Santis 2002; Grosfoguel 2002)	<ul style="list-style-type: none"> - Adaptation to Western ‘development & progress’ - Mantainance of global dependencies - inclusion of foreign words in own language 	Intercultural dialogue (Mohamed et al., 2020; Santis 2020)	<ul style="list-style-type: none"> - Focus on society and culture M 675 - Critical examination of universal ethics and its coloniality (Mohamed et al., 2020:675) - Actions promoting alternatives, pluralism and exchange
Competitive behaviour (Grosfoguel 2002; Quijano 2000a; Mignolo, 2018b)	<ul style="list-style-type: none"> - Capitalistic actions - f.ex. Cost-benefit-approaches 	Regional cooperation (Mohamed et al., 2020)	<ul style="list-style-type: none"> - signs of symmetrical balance of economic tasks and labour
ISSUES			
Social classification (Quijano, 2000a; Mignolo, 2018b; Grosfoguel, 2002; Santis, 2020)	<ul style="list-style-type: none"> - kinds of distinction of race; gender or classification due to economic factors - Othering/ Exclusion of groups/ parts of population 	Engaged decolonial pedagogy (Walsh, 2018 pp. 88; Mohamed et al., 2020; Adams, 2021)	<ul style="list-style-type: none"> - as the process of re-/learning - Active uncovering of social classification - racionalidad histórica (Acknowledgement of the past)
Capitalistic values (Grosfoguel 2002; Quijano 2000a; Mignolo 2018)	<ul style="list-style-type: none"> - notions of capitalistic ideologies and way of thought - Consumption directed thoughts 	Decolonial reason (Santis, 2020)	<ul style="list-style-type: none"> - Inclusion of non-Western perspectives (Asian, African, Latin-American, Caribbean perspectives) - Promotion of interaction and dialogue
‘scientific rationality’ (Quijano 2000a; Quijano, 2014) (Santis, 2020; Adams, 2021)	<ul style="list-style-type: none"> - notions of ‘<i>modern reason</i>’ - Expressions of AI as the possibility for human enlightenment - Closeness to technological ideas and developments of the West/its affirmation <i>universal approaches</i> 		