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Sustainability concerns of Portuguese higher education institutions: How are they planning to contribute to a more sustainable world

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Abstract

The global climate crisis is present in national and international discourse, along with other challenges the world is going through, such as the current wars in Ukraine and Gaza or the recovery from the Covid-19 pandemic, with the negative effects highlighted in the United Nations' sustainable development report. This paper aims to analyse and discuss how higher education institutions (HEIs) in Portugal cope with these challenges and contribute to a more sustainable world. The Portuguese case is interesting because, in recent years, they have been pressed to demonstrate their commitment towards sustainability publicly. We will proceed with framing the current role of Portuguese HEIs and their commitment to a sustainable world. This implies taking stock of their engagement with university social responsibility (USR), a concern of HEIs that is transversal to their roles – research, teaching, and service to society – but emphasises developing environmental sustainability and engaging students in active citizenship. Our argument is based on the importance that HEIs play in the sustainable development of societies, particularly in terms of environmental sustainability. Through documentary analysis of the strategic plans of HEIs, we explore if sustainability emerges and how it is framed in terms of policies and practices, contributing to a reflective debate on HEIs' potential role in addressing current challenges and committing to a more sustainable world. Therefore, the findings suggest that institutional diversity and territorial inequalities are important elements for understanding how different public HEIs in Portugal conceive and practice sustainability.

Keywords: *Climate Change, Higher Education Institutions, Strategic Plans, Sustainability, University Social Responsibility*

Introduction

The world is going through an unprecedented climate crisis, accompanied by concurrent social and political challenges, and the call for addressing the Sustainable Development

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Goals (SDG, 2030) appears inevitable to minimise the damage. However, we cannot fail to mention the fundamental problem of inequalities between the Global North and the Global South. SDGs are designed precisely to overcome geopolitical and economic differences (United Nations, 2023). With the 2030 Agenda failing, we realise the problems will become more acute. We will have a "two-speed world", according to the Secretary-General of the United Nations (ibid:2). This emphasises the importance of moving forward with the proposed SDGs (2030), focusing on eradicating poverty and reducing inequalities through education (UNESCO, 2015; Smith & Burns, 2013), improving the digital transition and expanding social protection and decent jobs.

Since the 1970s, policies and guidelines have emerged to combat climate change (Stockholm Conference, 1972; United Nations, 1992); however, it was only later that higher education institutions (HEIs)[3] adopted a position regarding sustainability challenges and assumed an explicit vision of their relationship with society. In the 1990s, the Talloires Declaration, issued by a group of rectors and vice-rectors from all the world's universities, was the starting point for debating the institutional culture of sustainability among HEIs through education and research (Talloires Declaration, 1990).

Environmental sustainability is, since then, an unavoidable reference point for understanding the relationship between HEIs and society, their concerns, and the principles of education, training, and research (UNESCO, 1998; 2015; European Commission, 2015) which they propose to their students. Based on this declaration, universities committed to an institutional culture of sustainability (Bizerril et. al., 2018) to move towards global sustainability through "education, research, policy formation, and information exchange on population, environment, and development" (Talloires Declaration, 1990, point 2). The declaration also proposed that HEIs should promote a citizenship education with environmental responsibility:

> ***3) Educate for Environmentally Responsible Citizenship***
>
> Establish programs to produce expertise in environmental management, sustainable economic development, population [...] to ensure that all university graduates are environmentally literate [...] have the awareness

[3] The term university appears broadly in international guidelines such as those issued by UNESCO (1998) or the Talloires Declaration (1990). However, for this paper, the authors have chosen to standardise the term higher education institutions since the paper includes a documentary analysis of strategic plans of public universities and polytechnic institutes the Portuguese context.

> and understanding to be ecologically responsible citizens. (Declaration Taillores, 1990: point 3).

In this paper, we explore the contextualisation of sustainability in HEIs in Portugal, i.e., as they began to show concern and set objectives, and missions related to sustainability. As well as the 1990 Talloires Declaration, a relevant landmark of this debate is the 1998 UNESCO World Conference on Higher Education and the vision and action it aims to achieve in the 21st century, with a commitment towards sustainable development, democracy, and peace, defending and respecting human rights and fundamental freedoms (UNESCO, 1998).

It was precisely in 1998, with UNESCO, that the missions of universities began to be emphasised to contribute to sustainable development and improving society. With this in mind, universities should train highly qualified and responsible citizens who can find opportunities at university, both for the labour market and "learning throughout life" (UNESCO, 1998:1). Understandably, the concept of sustainability and sustainability science is relatively new worldwide and can contribute to a greater openness of HEIs to society (Machado et. al., 2022). Studies such as that by Inpin et. al. (2023), carried out in Thailand, support the importance of collaboration between the different agents of society and HEIs in developing lifelong learning initiatives that contribute to SDGs related to the environment. Our position on the concept of sustainability, when referring to the relationship between sustainability and HEIs, is based on the idea that "education for sustainability is […] based on a holistic and interdisciplinary vision and should enable students to understand the complexity of global environmental, social and cultural configurations" (Machado et. al., 2022:2; Cinti et. al. 2023). This holistic view of the role of higher education institutions, pointed out by UNESCO, addresses "the need for a structural change in educational institutions, and questions how universities used their resources on campus and beyond, and positioned themselves in the world" (Cinti et. al. 2023:45), which we believe is in line with the concept of university social responsibility. USR is neither a neutral nor a consensual concept (Amorim et. al., 2015) and will be developed further in its particularities and contributions to reflecting on the position of HEIs regarding sustainability.

Bearing in mind the three missions that underpin universities: teaching, research, and service to society, it is vital to discuss the way in which sustainability cuts across all of these missions. Guattari's (2005) three ecologies relating to human subjectivity, the

natural environment and social institutions serve as the basis for the concept of the ecological university (Barnett, 2020, 2018 a), b)) which in this paper is used to better explore this process, and presupposes an understanding of universities about a series of ecosystems, such as knowledge and learning, the relationship with social institutions and people, the economy, culture and the environment (Barnett, 2018 a), b)).

This interconnection is established insofar as universities are currently challenged to develop a relationship with society, undergoing processes of reconstruction of the public sphere, where economic, environmental, social, and cultural sustainability issues appear. That is, the more universities have open debate with society, the greater their performance in engaging with public spheres, allowing closer relations; on the other hand, it can also lead to interference in universities' objectives, which may represent opposite paths (Barnett, 2018 a), b)).

Since higher education plays an unprecedented role in today's society (UNESCO, 1998), this paper aims to understand how universities assert and position themselves in spheres of public life such as economic-financial, social-cultural, environmental, and institutional concerns. These milestones are fundamental to a broader debate on higher education and society, with a view to the relevance of sustainability. Our goal is to consider how these principles were translated into the primary mission of Portuguese HEIs as defined by their current strategic plans. Given the importance that HEIs play in the sustainable development of societies, our goal is to contribute to a reflective debate on the potential role of HEIs in building interdisciplinary responses to current challenges and committing to a more sustainable world.

Relationship between Sustainability in Higher Education Institutions and University Social Responsibility

Addressing university social responsibility (USR) for sustainability in HEIs is essential to find connections between the policies and objectives of HEIs when they approach sustainability practices with the intention of implementing them in their institutions, endeavouring to build bridges with society. According to Dima (2015), most European HEIs already seem to be sensitised and aware of the importance of their "social dimension" (Dima, 2015:6).

It is relevant to clarify the issues related to sustainability and to incorporate the conception of what USR is. We therefore argue that the definition of USR depends on the "positioning of the concept [on] a continuum that ranges from a conservative-

managerialism to a transformative-critical pole" (Menezes et. al., 2018:1). On the one hand, the former is essentially rhetorical and emphasises organisational governance and institutional reputation; on the other hand, the latter is positioned in the profound, transversal transformation of universities, encompassing teaching, research, and interaction with society, through environmental and social sustainability (Amorim et. al., 2023). Thus, it is clear that the university mission, which involves teaching, research, and service to society, must consider the interaction between people and contexts. USR then clarifies the role of universities from a broader perspective, embracing the potential for internal and external transformation, i.e., by establishing a relationship with the community, of which they are also an integral part (Coelho & Menezes, 2021). Thus, USR includes and boosts the participation of all community agents, assuming that universities is spaces for learning that do not stop at the classroom (Coelho & Menezes, 2022; Menezes et. al., 2018).

Thus, we cannot approach USR without addressing the promotion of active citizenship (Menezes & Ferreira, 2012; Pinheiro et. al., 2023) and student participation in HEIs, since understanding that the teaching-learning role of HEIs goes beyond the classroom encourages the development of projects that incorporate the diversity of HEI populations. This is significant for two reasons. Firstly, because thinking about USR implies thinking about the diversity of audiences that universities currently address, and no less relevant, involving and encouraging the participation of students in higher education in USR projects can be an opportunity to develop their critical positioning in aspects such as fair practices and governance, environmental sustainability, community involvement and teaching and research (Martin, 2015; Coelho & Menezes, 2021).

We therefore emphasise the importance of HEIs taking on an ecological and situated vision in their missions, particularly in their relationship with society (Menezes et. al., 2018). It should be noted that USR encompasses various meanings (Coelho & Menezes, 2021) that can add value to the positioning of HEIs vis-à-vis the societies they are part of. This allows them to focus on an integrated vision that reconciles the different forms of sustainability to which HEIs are subject and which we will focus on in this paper: environmental, institutional, economic-financial, social and cultural and the relationship between sustainability and education.

Method

Research Design

This paper is based on a documentary analysis of strategic plans for public HEIs in Portugal. These strategic plans define the mission to be accomplished, challenges to be dealt with, and objectives to be achieved in line with European agendas. These documents also reveal how HEIs conceive a role beyond producing knowledge and teaching and learning, including their commitment to a dialogical and participatory relationship with the broader society.

In this paper we analyse and discuss how HEIs in Portugal deal with the challenges related to different levels of sustainability, such as environmental, economic-financial, social, cultural or institutional, and can contribute to a more sustainable world. These challenges are present in HEIs' activities through research, teaching and community relations. The objectives are i) to map the terms related to "sustainability" listed in HEIs' strategic plans and ii) to understand the main concerns that HEIs have with sustainability, both internally and externally, of particular interest for proposing sustainability-orientated practices that can contribute to the service to society proposed by HEIs. The Portuguese case is attractive due to the recent expansion and massification of higher education, accompanied by challenges such as public funding for HEIs and growing internationalisation.

Sources of Data

Table 1 below shows the public HEIs included in this documentary analysis of strategic plans, with the total number of students enrolled in the last academic year (2022/2023). Bearing that the HEIs have been anonymised, we consider letters from A to Z correspond to public universities. In contrast, the letters AA to AT correspond to public polytechnic institutes.

Table 1
Titles of the strategic plans analysed, together with the number of students enrolled in the HEIs (Portuguese universities and polytechnics)

Public HEIs	Years of Strategic Plans	Title	Academic year 2022/2023 Total Number of Students Enrolled
A	2023–2026	Strategic Plan of the University of A	7,868
B	2022–2025	Strategic and Action Plan for the 2022–2025 Quadrennium	11,353
C	2019–2023	Strategic Plan of the University of C	23,852
D	2021–2025	Strategic Plan for the University of D	10,046
E	2023–2026	Strategic Plan for the University of E	15,963
F	2022–2024	Strategic Plan for the University of F	3,589
G	2030	Strategic Plan of G	8,177
H	2022–2026	Action Programme	2,961
I	2021–2025	Strategic Programme	8,444
J	2014–2020	Strategic Plan J: Sustained growth to build the future	20,106
K	2030	Strategic Plan of K	35,791
L	2020–2030	A Global and Civic University: Strategic Plan	25,191
M	2021–2025	Action Programme: Stay the course. Securing the future	50,197
N	2019–2023	Strategic Plan	9,726
AA	2019–2022	Strategic Plan of AA	3,553
AB	2022–2025	AB Polytechnic Strategic Development Plan	2,643
AC	2022–2025	Medium-term Strategic Plan	1,769
AD	2023–2027	Action Programme: Overcoming | Involvement | Responsibility	1,375
AE	2021–2024	Four-year Action Plan 2021–2024	13,549
AF	2023–2026	Strategic Plan	10,813
AG	2030	AG Polytechnic Strategic Plan	13,047
AH	2017–2021	AH Polytechnic Strategic Plan	6,786
AI	2030	AI Polytechnic Strategic Plan	4,542
AJ	2023–2026	Medium-term Strategic Plan and Action Plan	793
AK	2023–2026	AK Polytechnic Strategic Plan	4,534
AL	2030	Strategic Plan: Be today | Have tomorrow	5,822
AM	2022–2026	Making the Future. AM Polytechnic Strategic Plan	21,773
AN	2020–2024	Vision and Strategy for the Future	1,599
AO	2021–2025	AO Polytechnic Strategic Plan	3,110
AP	2021–2025	Strategic Plan | AP Polytechnic	11,581
AQ	2020–2024	AQ Strategic Plan	4,928
AR	2016–2018	Strategic Development Plan	7,848
AS	2020–2024	AS Strategic Plan	1,724
AT	2023–2027	Action Plan – A Bold and Sustainable Future: we continue the journey	2,509

Data collection and Analysis:

The documentary analysis of strategic plans was carried out at the 14 public universities and 20 polytechnic institutes between 2014 and 2030. While at some HEIs, the strategic plans have been in place since 2014 and have yet to be updated, in others, these documents have been developed more recently and will be valid up to 2030. The authors chose to analyse the strategic plans of public HEIs because of the ease of access to these documents

and because they tend to represent the higher education system in Portugal. To do this, the strategic plans were searched for on the HEI websites, and these plans were available for consultation in all the public HEIs. Once all the strategic plans had been collated, a floating reading was undertaken to understand the appearance of the "term" sustainability. This paper considers public universities, including those on the Portuguese islands of São Miguel (Azores) and Madeira and distance learning universities. However, it should be noted that when comparing the data between inland and coastal Portugal, the HEIs located on the islands and the distance-learning HEIs were not included in the analysis and discussion of the results. Thus, out of the 14 Portuguese public universities whose strategic plans were analysed, four are located inland, seven are on the coast, two are on the islands, and one offers distance learning. As for the public polytechnic institutes, of which there are twenty in total, fourteen are coastal and six inland. This categorisation of HEIs between inland and coastal areas allows us to understand issues related to the influence of territorialisation, i.e. we realise that the majority of HEIs are located on the coast of the country, which consequently raises other concerns for HEIs located inland, namely those related to the settlement and attractiveness of young people to choose an HEI inland, leading to possible difficulties of economic and financial sustainability.

We opted for a documentary analysis of strategic plans with the aim of mapping the uses and variations of the term “sustainability” to discuss the positioning of HEIs on this topic, relating it to university social responsibility and points of contact between them. To do this, i) we formulated the specific objectives we wanted to achieve with this documentary analysis of strategic plans, i.e., the guiding questions of this review; ii) identified the strategic plans to be analysed, namely those from Portuguese public HEIs; and iii) read and searched for the term “sustainability”, framing it in the different categories that were created, described below. When analysing the strategic plans of public HEIs, we always looked for the term "sustainability", interpreting it in the context/category that had previously been created.

We began the process by searching for the term "sustainability" in each strategic plan (N = 34), categorising the term into the previously created categories:
1) environmental sustainability (energy sustainability; adoption of environmentally sustainable practices), 2) institutional sustainability (digital transitions; the relationship with the world of work), 3) economic and financial sustainability (to compete for and take advantage of national and European funds; public funding of higher education), 4) social and cultural sustainability (cooperation for sustainability in the social, economic and

cultural dimensions), and 5) the relationship between sustainability and education (guarantee access to higher education and training of excellence; the exercise of citizenship).

The reliability of the study was ensured by researching the updated strategic plans of each HEI via their official websites. It should be noted that the analysis consisted of searching for the term "sustainability" and contextualising it so that it could be typified into categories. This analysis was discussed among the researchers to refine the documentary analysis of strategic plans.

Findings and Discussion

The research question that guides this paper is based on understanding how HEIs, through their strategic plans, position themselves in different spheres of life, such as the economic-financial, socio-cultural, environmental and institutional. Based on this research question, the aim is to broaden the debate between higher education and society and how sustainability appears in these discourses.

As already stated, the aim of the documentary analysis of strategic plans was to i) understand how HEIs in Portugal are developing environmental sustainability in their guidelines and practices and ii) ascertain how references to different sustainability concepts appear in HEIs' strategic plans so that they can contribute to society's current challenges, what problems HEIs face and how they position themselves.

In this section, we present the main results of this analysis to understand the HEIs' positions on sustainability parameters and their relationship with education, as well as which aspects of sustainability stand out in the different HEIs (university and polytechnic) strategic plans.

Table 2 below presents the number of times the terms were referenced in each category, i.e., environmental sustainability, institutional sustainability, economic and financial sustainability, social and cultural sustainability, and the relationship between sustainability and education, by relation to each HEI and the period which the analysed strategic plan refers to.

From this table, we can begin to understand the major concerns presented by the HEIs associated with the use of the terms and how these concerns are related to the missions of the HEIs, namely teaching and learning, research, and relation to society. Moreover, we can understand how the HEIs propose contributing to a more sustainable world.

Table 2

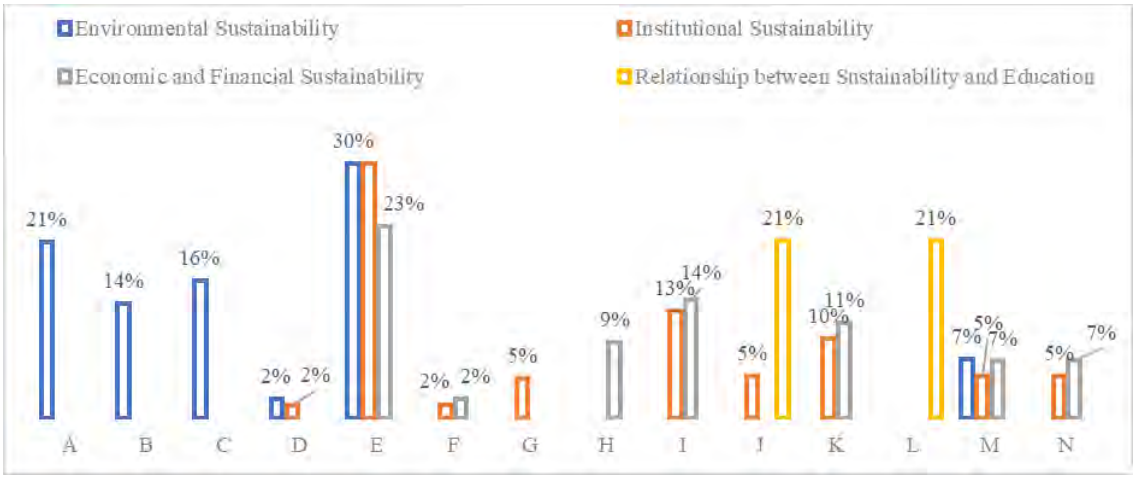
Number of references per sustainability category, according to the analysis of the HEIs' strategic plan

	Years of Strategic Plans	Environmental Sustainability	Institutional Sustainability	Economic and Financial Sustainability	Social and Cultural Sustainability	Relation between Sustainability and Education
A	2023–2026	9	8	5	3	1
B	2022–2025	6	2	0	0	2
C	2019–2023	7	4	5	0	1
D	2021–2025	1	1	0	0	0
E	2023–2026	13	19	10	3	3
F	2022–2024	0	1	1	0	0
G	2030	0	3	0	0	0
H	2022–2026	1	1	4	0	0
I	2021–2025	1	8	6	2	0
J	2014–2020	1	3	2	0	3
K	2030	1	6	5	0	1
L	2020–2030	0	1	0	0	3
M	2021–2025	3	3	3	0	0
N	2019–2023	0	3	3	0	0
	Total of references	**43**	**63**	**44**	**8**	**14**
AA	2019–2022	1	2	2	0	0
AB	2022–2025	0	3	1	0	1
AC	2022–2025	0	2	6	0	1
AD	2023–2027	0	1	0	0	0
AE	2021–2024	4	0	0	0	0
AF	2023–2026	9	12	3	0	2
AG	2030	8	8	1	3	0
AH	2017–2021	1	0	5	0	0
AI	2030	0	2	0	0	0
AJ	2023–2026	12	1	0	0	0
AK	2023–2026	1	1	2	1	0
AL	2030	3	5	2	1	2
AM	2022–2026	2	0	6	0	0
AN	2020–2024	4	3	2	1	0
AO	2021–2025	9	2	15	0	4
AP	2021–2025	10	0	3	0	0
AQ	2020–2024	6	5	5	1	4
AR	2016–2018	0	1	3	0	3
AS	2020–2024	2	2	0	0	1
AT	2023–2027	1	6	3	1	0
	Total of references	**73**	**56**	**59**	**8**	**18**

Graphs 1 and 2 show the percentages of the different variables of the term "sustainability" that appear in the HEIs' (universities and polytechnic institutes) strategic plans. The occurrence of these terms, contextualised in the analysis of the plans, which we will comment on and explain qualitatively below, allows us to map these occurrences to understand the HEIs' primary concerns with sustainability, according to what is stated in their strategic plans. These documents set out the objectives to be achieved by their higher education institutions and explain their concerns and orientations.

Graph 1 shows how HEIs in Portugal position themselves in sustainability in all its variables (environmental, institutional, economic-financial, relationship between sustainability and education). Here are the most frequent references, for example, institutional sustainability emerges with a percentage of 30% in University E's strategic plan (mentioned 19 times), followed by University I and K (13% and 10%), where the term is referred to eight and six times, respectively.

As for the term environmental sustainability, it is frequently referenced in Universities E (30%; 13 times), A (21%; 9 times), C (16%; 7 times), and B (14%; 6 times). Conversely, these universities do not prioritise economic and financial sustainability issues.



Graph 1: Percentages of sustainability terms in universities in Portugal

Thus, economic and financial sustainability issues are not as much of a priority in universities as in polytechnics because, although they are mentioned, they are not as illustrative of the institutional difficulties which polytechnics face.

However, in the case of polytechnic institutes, economic and financial sustainability emerges as a relevant issue, as can be seen from the data in Graph 2 (75% of these institutions mention it in their strategic plans). This is a high figure compared to the emergence of the use of the term sustainability in other variables, such as environmental, institutional or the relationship between education and sustainability.

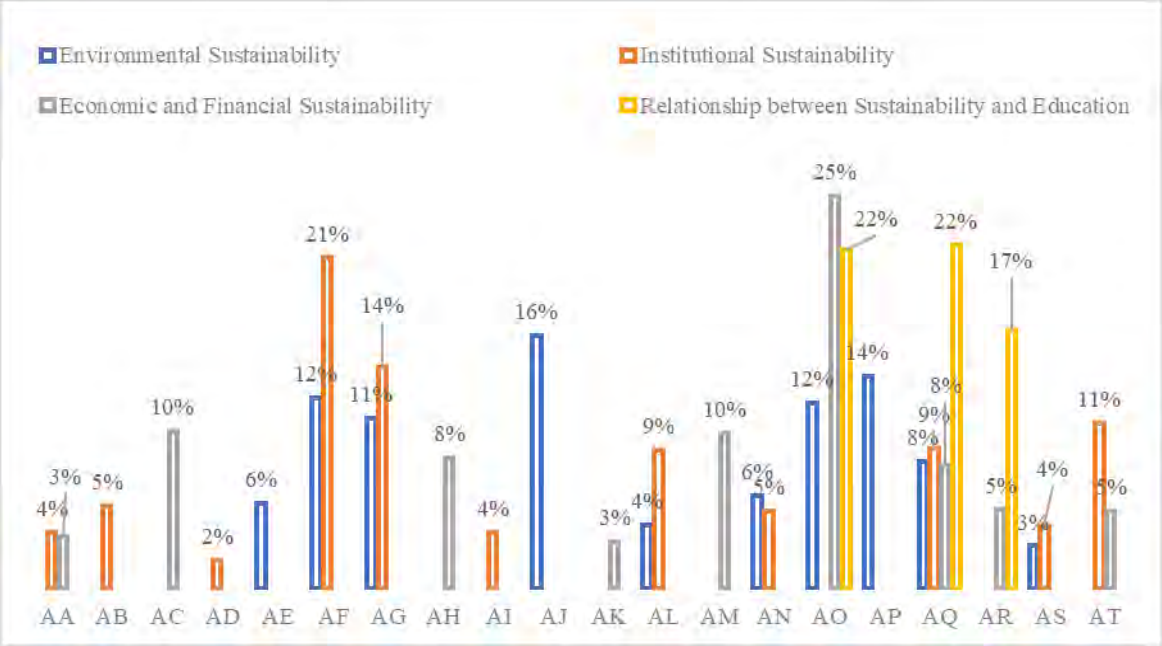
Hence, economic and financial sustainability issues are not as much of a priority at universities as they are at polytechnics because, although mentioned, polytechnics face more significant concerns at this level.

However, in the case of the polytechnic institutes, economic and financial sustainability emerge as relevant issues, as we can see from the data in Graph 2 (75% of these institutions refer to them in their strategic plans). In particular, this type of sustainability is mentioned 15 times in the strategic plan of Polytechnic Institute AO (25%) and six times in that of Polytechnic Institutes AC and AM (10%).

In the case of polytechnic institutes, it is also worth noting that concerns with institutional sustainability appear in percentages between 2% and 21% (i.e., between one and twelve references to the term in the same strategic plan). This concern is more prevalent in universities than in polytechnic institutes since, as portrayed in Graph 1, it is mentioned in 100% of all universities' strategic plans, compared to 80% of polytechnic institutes (Graph 2).

As for the references to environmental sustainability in the polytechnic institutes' strategic plans (Graph 2), AJ is the institution where these references appear more often (12 times, corresponding to 16%), followed by AP (10 times, corresponding to 14%) and AF and AO (10 and 9 times, respectively, corresponding to 12%).

Therefore, it can be concluded that polytechnic institutes have more balanced concerns regarding sustainability than universities. Moreover, they are more concerned with economic and financial sustainability, as well as with environmental sustainability. These graphs are intended to be descriptive in analysing the strategic plans, and below, we will provide qualitative support for these analysis indicators.



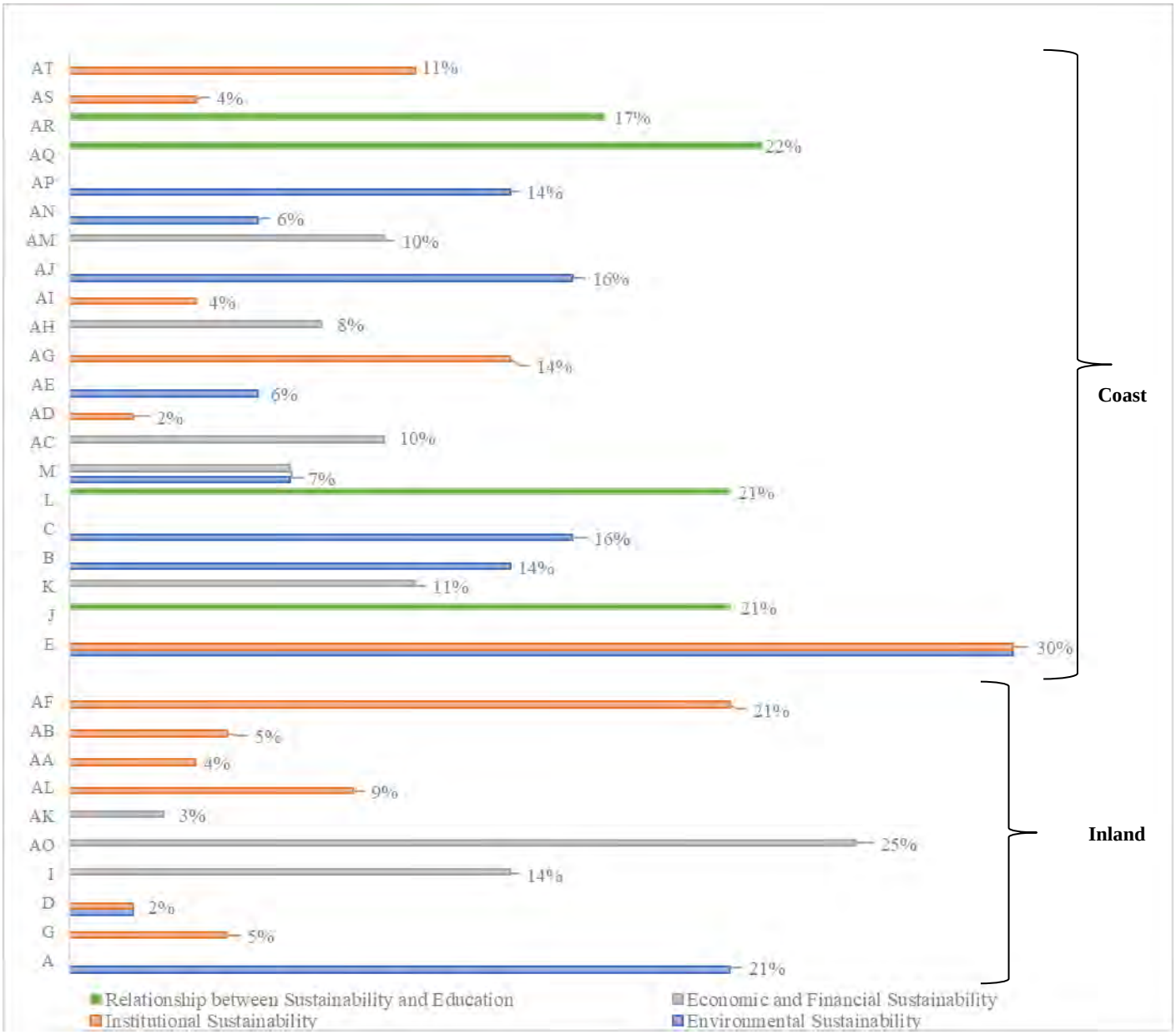
Graph 2: Percentages of sustainability terms in polytechnic institutes in Portugal

Graph 3 allows us to understand several important points for the discussion in this paper, namely that more than half of the HEIs are located on the coast – 21 HEIs on the coast, compared to 10 inland. Before we discuss the data, it is important to note that these percentages have been adjusted to the universes to which they refer, i.e., according to the number of references to polytechnic institutes and universities in the paper. For this graph, the most significant number of references per HEI is considered according to the different sustainability terms mentioned throughout the strategic plans.

Having made these provisions, we realise that this data also indicates that the main concerns of inland HEIs, whether universities or polytechnics are institutional, economic, and financial sustainability. Polytechnic Institute AO's strategic plan has 25% of references to economic and financial sustainability (15 references to the term throughout the institution's strategic plan), while University I has 14% (six references) and Polytechnic Institute AK 3% (two references). As for institutional sustainability, this term appears in six HEIs, with 21% of responses coming from Polytechnic Institute AF (12 references to the term in the strategic plan), followed by 9% from Polytechnic Institute AL (five references) and 5% from Polytechnic Institute AB and University G (three references).

On the other hand, the HEIs located on the coast have strategic plans where more references are made to environmental sustainability, with 13 HEIs out of 21 referring to it. We highlight University E with 30% (13 references to the term), Polytechnic Institute AJ and University C standing out with 16% (12 and 7 references to the term), AP and B with 14% (10 and 6 references). Regarding institutional sustainability, this term appears in 15 of the 21 coastal HEIs, with 30% at University E (19 references), 14% at Polytechnic Institute AG (eight references) and 11% at Polytechnic Institute AT (six references).

Graph 3 also presents relevant data on the relationship between sustainability and education, which stands out in the country's coastal HEIs, with 21% in Universities J and L (three references in each strategic plan), 22% in Polytechnic Institute AQ (four references) and 17% in Polytechnic Institute AR (three references). In the case of this link between the term sustainability and education, although we realise that the HEIs do not seem to attach much importance to it in terms of the number of references, we will now focus on discussing this data qualitatively, given the importance we advocate for sustainability as an educational and research strategy in higher education institutions.



Graph 3. ***Percentages between HEIs located on the coast and in the inland regions of mainland Portugal***

How Does the Term "Sustainability" Stand Out from The Perspective of Qualitative Analysis?

To complete the analysis presented so far, we added excerpts from the HEIs' strategic plans to illustrate how sustainability is framed in each institution. Thus, according to the data already shown, in terms of concerns related to environmental sustainability, we highlight University B, which states the importance of adapting:

> to meet the challenges of energy sustainability by continuing, in line with the environmental certification of the [University B] campus, to implement a building transformation plan structured around three lines of action: strengthening and correcting the external thermal envelope of the buildings (walls and window frames). (University B, Strategic and Action Plan, 2022–2025:57).

In this way, concerns about environmental sustainability lie mainly in achieving more energy and building sustainability. They are, therefore, based on internal improvements to the campus sustainability plan, with no particular attention and care being paid to raising awareness and educating/training students to promote fundamental aspects of environmental sustainability related to the relationship with society.

On the other hand, in contrast to University B, we have the example of Polytechnic Institute AJ, also located on the coast, but which presents environmental sustainability concerns related to the culture of sustainability itself when it states:

> it will be necessary to develop a culture of sustainability at the school, in line with the United Nations' sustainable development objectives, which are considered most relevant to the school's mission and which should be reflected in the adoption of environmentally sustainable practices on campus and also in the development of research activities involving the application of sustainable practices in maritime transport, in line with the objectives defined by the World Maritime Organisation (IMO). (Polytechnic Institute AJ, Strategic and Action Plan, 2023–2026:25).

At Polytechnic Institute AJ, we can see more significant concern and attention to environmentally sustainable practices that go beyond the campus space to involve research activities that can contribute to actions to be implemented from an integrated and complementary perspective, able to respond to the United Nations' SDGs. This allows us to consider that students will be involved in actions and activities favouring greater environmental sustainability in their relationship with the surrounding community.

In this last example from Polytechnic Institute AJ, we can understand a position that goes hand in hand with what we upheld theoretically, with the Taillores Declaration (1990), when it refers to the importance of "education for environmentally responsible citizenship", carrying out projects in HEIs that involve and encourage students to have knowledge and practices that are fundamental

to environmental sustainability, both of the institutions and the society of which they are part. This position is essential for HEIs in the Portuguese context, who need to adopt practical projects beyond the intentions of their strategic plans.

Regarding institutional sustainability, the data shows that it is transversal to the different HEIs. However, it seems relevant to bring up two examples of how the HEIs position themselves on this issue and their "paradigm" of action in this respect. University E, located on the coast, identifies institutional sustainability as an urgent need to reflect and act on how "the demographic crisis, of national and European dimensions, will condition the growth of economies and the sustainability of higher education institutions". From this perspective, the strategic plan identifies its mission as

> ways to overcome [... the] difficulties. Strengthen [...] conditions for research, teaching, and co-operation, to attract and retain talent central to the sustainability of these activities. (University E, Strategic Plan, 2023–2026:14).

The other interesting example comes from Polytechnic Institute FA, located in the inland of the country, which supports what University E says and emphasises the following:

> The world around us is changing at an unprecedented pace. We are facing a severe global sustainability crisis that requires technological change and a change in the economy, working life, and ways of life. HEIs must lead the way in technological change for sustainability and to help meet these global challenges. (Polytechnic Institute AF, Strategic Plan, 2023–2026:25–26).

Thus, institutional sustainability is understood from a global and challenging perspective that ends up triangulating different pillars of HEI sustainability, with economic-financial issues, digital transitions, and the relationship with the world of work appearing as concerns and goals to be achieved by HEIs.

This is corroborated by the UNESCO reports (2015; 1998), when they emphasise concerns about reducing inequalities in education, for example, by improving the digital transition, and above all, when they point to the role of universities as essential for training citizens and providing opportunities in the labour market. We realise that these concerns can be found in HEIs' strategic plans.

Throughout this analysis and discussion of the results, it can be seen that economic and financial sustainability is fundamental for several HEIs, with particular emphasis on the polytechnic institutes located in the inland of the country, which are facing more significant challenges, both in terms of funding from the Portuguese government and in terms of retaining students at their institutions and their relationship with the labour market, which is also proving to be a challenge at this level. Table 1 above arises from the need to map the distribution of students across the different HEIs to illustrate the challenge that this discussion will detail. Public funding of higher education reveals challenges related to its massification. The study by Amorim et. al. (2023:52) points out that "more competition implies less cooperation" and also that "the excess of transparency threatens the right to privacy of the person receiving public funds". We want to highlight these aspects, which are crucial to understanding the difficulties HEIs face in economic and financial sustainability, as well as the competitive challenges they face among themselves, which translate into economic and financial problems. They seem unable to find a solution for this predicament. At the level of European documents, too, "competition for funding and ever-increasing revenues, metrics for measuring predetermined learning outputs and research performance" are also at the centre of current global problems (Cini et. al., 2023:8). The approach of the ecological university concept (Barnett, 2020, 2018 a), b)) allows us to understand the positioning that would be "desirable" for HEIs today, i.e., an interrelationship between knowledge, learning, the relationship with society, the economy, culture, and the environment (Barnett, 2018 a), b); Guattari, 2005). However, our data shows that HEIs, especially polytechnics located in the inland of the country, are concerned with economic and financial sustainability; this may not give them the space to create another social, cultural, and even environmental sustainability positioning since all efforts seem to be aimed at attracting and retaining students, as well as managing their institutions. This seems relevant at the level of central policies so that HEIs can put USR projects into practice (Martin, 2015; Coelho & Menezes, 2021) as long as more crucial economic and financial sustainability concerns are overcome. We position ourselves from the perspective of USR focused on transforming social justice (Amorim et. al., 2023).

We therefore feel it is essential to highlight the position of Polytechnic Institute AO, located the country's inland, when they say:

> In an increasingly competitive world of higher education, in which there is a recognised overlap of training offers, annually creating uncertainty as to how many

> places will be filled and jeopardising the financial sustainability of institutions, which has already been greatly aggravated by restrictive government support policies, entrepreneurship, and inter-institutional cooperation, conducive to creativity, differentiation and the competitive strength of attractiveness factors, are fundamental. (Polytechnic Institute AO, Strategic Plan, 2022-2025:51).

In its strategic plan, Polytechnic Institute AO corroborates what Evans (2009:245) advocated: "If greater social responsibility is to be genuinely embraced, a society that learns and pursues the spirit of mastery has to establish an ideological base for itself which attaches as much importance to active and engaged citizenship as it does to economic growth and productivity".

In contrast, Polytechnic Institute AM, located on the coast, also presents economic and financial concerns. However, these lie within a strategic plan to be able to compete for and take advantage of national and European funds, which will allow it to become a more structured and competitive institution, as we can see from the following excerpt:

> In recent years, a progressive increase in competitive research funding has been evident. This comes from regional, national, and European programmes. To guarantee the sustainability of research, it is essential to have centres, teams, and support structures to compete for funding. The MA must create an efficient structure, with a team of highly qualified professionals, to take advantage of all funding opportunities, specifically by supporting the preparation, submission, and execution of projects. (Polytechnic Institute AM, Strategic Plan, 2022–2026:62).

As we realised throughout the analysis, social and cultural sustainability does not feature prominently in the number of references in the various HEIs' strategic plans. However, it was considered relevant to give a concrete example from an HEI, Polytechnic Institute AG, located on the coast. This example helps us understand what might be interesting to consider to boost the social and cultural sustainability of HEIs.

> In these regions, an area that coincides with the Culture 2027 Network, it aims to be a reference institution in the social, creative, and cultural field, designing, implementing, and publicly presenting proposals framed by cooperation for sustainability in the social, economic and cultural dimensions, from the local scale

> of the region to the global scale that work processes imply in contemporary times. (Polytechnic Institute AG, Strategic Plan, 2030:31).

For this debate, it is interesting to understand how our data contradicts the perspective presented in the report on university social responsibility (USR), which notes that many European HEIs, in addition to being sensitised and aware of the importance of the "social dimension", are developing actions to prioritise this dimension in their policies and daily practices (Dima, 2015:6). From our analysis of the strategic plans of Portuguese public HEIs (universities and polytechnics), this prioritisation of the "social dimension" is not at all evident in the relationship with "social and cultural sustainability"; on the contrary, we have a total of 16 references in all the strategic plans, the lowest number of references associated with the term "sustainability".

In the same vein, the relationship between sustainability and education emerges, with the realisation that this relationship needs to be more present in strategic plans, and sometimes, when it does appear, it does not reveal concerns between sustainability and education. For this reason, Polytechnic Institute AL was considered that an interesting example to bring into the debate. It is located inland of the country and, despite presenting only two references throughout the strategic plan, they are crucial references to enhance the debate in this paper. We highlight the following excerpt:

> the first mission of AL is to guarantee access to higher education and training of excellence, taught by a highly qualified faculty, promoting the design and implementation of innovative, socially relevant projects, assuming itself as an agent of social intervention, technological transformation, community qualification, sustainability, and internationalisation. Thus, Strategic Axis A – Education and Training is required. Adopt new teaching, learning, and assessment methodologies: 5% increase in literacy in sustainability. (Polytechnic Institute AL, Strategic Plan, 2030:15).

In this case, the strategic plan of Polytechnic Institute AL foresees an increase in sustainability literacy for its students through the teaching and training axis; in fact, we would like to corroborate the relevance of this perspective and its appearance as an intention in the strategic plan of the HEI in question. Above all, aspects should be highlighted that can also condition the performance of

Polytechnic Institute AL, such as economic-financial issues, associated with being located inland and having to create attractiveness for students. In the same vein is Polytechnic Institute AO – also located inland – which has four references to the relationship between sustainability and education (the maximum number of references we recorded in the strategic plans in this category). They emphasise the goal of becoming a benchmark institution in teaching and research, thus contributing to "leveraging and sustaining the development of the city, region, and country, through proactive commitment to the exercise of citizenship and cultural dissemination" (Polytechnic Institute AO, Strategic Plan, 2022-2025:52).

In this way, we can understand the importance of this close relationship between sustainability and education, even in HEIs with characteristics that can make this vision difficult for them due to economic and financial concerns and institutional sustainability. This can be seen from the analysis of HEIs located inland, as compared to those on the coast; it seems to be positioning of these HEIs, in particular, to strengthen relations between teaching and research and social and cultural sustainability practices, as a means of presenting and reinforcing themselves as institutions of reference. From this perspective, these two qualitative examples allow us to establish similarities with an analysis carried out within the scope of USR (2015) in which it is revealed that USR appears around terms such as: "development, education, and community, but research and training" also appear as relevant areas, "reinforcing the specificities of USR in the context of higher education" (Freires et. al., 2015:6). However, we are also interested in highlighting that this relationship between sustainability and education still seems to be the exception rather than the rule in the strategic plans of the HEIs analysed.

Conclusions

As a concluding note to this paper, we feel it is important to emphasise that despite the efforts of some HEIs, which we have mentioned as examples of positive practices concerning the relationship established between education and sustainability and which put social and cultural sustainability into practice through their strategic plans, we cannot help but notice that both "social and cultural sustainability" and the "relationship between education and sustainability" seem to be the "poor relatives" of the intentions presented in the strategic plans.

Despite European and national documents pointing to the importance of HEIs positioning themselves and establishing a relationship with society, putting these guiding principles into

practice still seems to be difficult. In this way, HEIs continue to focus on themselves without being able to demonstrate ecological awareness and responsibility towards the wider society, and there needs to be consistent involvement between teaching and research. This situation is due to economic and financial concerns, which are prioritised and affect many public HEIs (including universities and polytechnics), followed by institutional and environmental concerns.

We believe it is important to emphasise that the HEIs in the Portuguese public context also have different concerns, considering the geographical area where they are located, because although the country is relatively small, the differences between the coast and the inland areas are very representative of territorial inequalities that have been spotlighted in different sectors of society. Also, in this respect, HEIs represent a vision and a possible "window of opportunity" for making a difference, establishing a relationship with society and enabling the transition to digitalisation and the settlement of young people in inland areas, among many other aspects that represent the social responsibility and sustainability that HEIs themselves can foster in the places where they are located.

To this end, we believe it is essential to allocate more significant financial resources to HEIs, especially those located in the interior of the country which face more intense economic challenges. Once these economic and financial sustainability needs have been met, they can dedicate themselves to other aspects of sustainability, such as the environmental, social and cultural. In this way, it is also believed that by addressing financial issues, HEIs will be able to look at environmental sustainability as a gain at various levels and with the training aspect, which we also advocate in this paper. In other words, it seems essential for future studies by the HEIs themselves to recognise the importance of promoting sustainability practices as a guiding principle for active citizenship, involving and listening to their students.

Reflecting also on the limitations of this paper, we cannot fail to mention that it only analysed the strategic plans of public HEIs. It would be relevant to be able to complement this with empirical data and analysis of projects in which HEIs can actively participate, among other aspects that would allow us to acquire a greater depth of knowledge about their different circumstances.

However, we should emphasise the importance of understanding the specificities of the different public HEIs in the Portuguese context, with a highlight on the importance of thinking about sustainability and university social responsibility with an integrated, situated, and ecological vision. This allows bridges to be established between HEIs and society so that HEIs can reflect an

open and dialogical relationship, integrating the different needs of their students, their institutions, and the society they are part of to ensure and promote links with teaching, that the concept of sustainability and university social responsibility goes beyond the barrier of intentions present in the guiding documents.

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