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## Governance and Sustainable Development at Higher Education Institutions

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### Abstract

Governance issues, here interpreted as the provisions of adequate policy frameworks characterised by reliability and accountability, coupled with resources to support their implementation, are known to be the basis for the implementation of sustainable development measures. This paper discusses the influence of governance in the ways sustainability is perceived and practiced in a higher education context. Apart from due considerations to the role of governance as the basis for regulation and institutional actions and management decisions, this paper reports on an empirical study undertaken in a sample of higher education institutions (HEI). This study entailed an analysis of sustainable development policies, certification, organisational structure, budget, reports, team for sustainability, staff training, and challenges for the integration of sustainability and governance. The results suggest that even though there are different opinions and attitudes on the role of governance, it is regarded as an important component in supporting efforts by higher education institutions to include considerations on sustainable development as part of their strategies.

Keywords: sustainability – higher education – governance – planning – strategies

Conflict of Interest: The authors declare that they have no conflict of interest.

# Governance and Sustainable Development at Higher Education Institutions

## 1. Introduction

~~This section of the paper discusses the idea of governance and sustainable development at higher education institutions. The section first delves into the definition of the concept of governance as it relates to sustainable development at higher education institutions. Following this, a review of current global developments and limitations on governance and sustainability within the higher education sector is highlighted. The review ends with a call for the need for further research in the area, and the manner in which the present research is able to bridge this gap.~~

Universities and stakeholders within these institutions play a significant role in shaping the sustainable development agenda (Leal Filho 2012; Sivapalan 2016; Wals et al. 2016). International debates on sustainable development within the higher education sector can be traced back to as early as the 1990s, through initiatives such as the University Charter for Sustainable Development, the Kyoto Declaration on Sustainable Development and the Talloires Declaration (Jones, Selby and Sterling 2010). Other sustainable development focused initiatives that have made a governance mark within the sector include the Ubuntu Declaration, The Thessaloniki Declaration, the World Declaration, the Earth Charter and the Lüneburg Declaration (Byrne et al. 2010). However, it was the Decade of Education for Sustainable Development (2005-2014) and the Rio 2012 summit that firmly set the direction and space for the higher education sector to be formally involved in advocating for the need for institutions of higher learning to embody sustainable development within all aspects of its institutional operations.

Prior to understanding governance for sustainable development within the higher education context, the concept of sustainability governance shall briefly be discussed first. Sustainability governance, according to research conducted by Van Zeijl-Rozema, Cörvers, Kemp and Martens (2008), involves two key perspectives from sustainable development, and two principle models of governance. While ecology and well-being form the sustainability dimensions, hierarchical and deliberate means embody the modes of governance. The intersections of these sustainability perspectives and models of governance make way for four types of governance for sustainable development, namely ecological-hierarchical, ecological-deliberative, well-being-hierarchical and well-being deliberative. These findings are significant, as it provides a strategic framework for deliberations on sustainability governance structures, including that of higher education institutions (Tappeser and Mayer 2012).

Interestingly though, while higher education governance has been an area of study keenly investigated by many researchers, there does not seem to be a common definition to describe the term. An instance is exemplified here, using the definition of The Code of Governance of Irish Universities 2012, where governance in higher education is referred to as ‘the systems and procedures under which organisations are directed and controlled. A robust system of governance is vital in order to enable organisations to operate effectively and to discharge their responsibilities as regards transparency and accountability to those they serve’



development at higher education institutions, the term governance has come to be defined as ‘overall, institution-wide aims or policy, versus those specific to a particular unit or topical focus’ (Vaughter 2016, p. 25). Discussions on governance often include the institution’s predominant aims and purposes, accountability, finance, long-term planning and leadership, note Vaughter et al. (2016).

There is a growing demand for HEIs to play an active role in providing help in responding to society's concerns, in which sustainability represents a particularly relevant issue (Sojini et al. 2018). HEIs are knowledge-producer institutions, which positions them as engines of economic growth (Trencher et al. 2014) and, as a consequence, of sustainable development. Additionally, their role as technology transfers to society, as well as education centres, put them in the core of essentials of Sustainable Development Goals (SDGs) and in boosting sustainability. All these aspects must be included to achieve good governance in the HEIs.

Given this, there is increasing research on the field of applied analysis (Gamage and Sciulli 2017; Ramos et al. 2015; Rath and Schmitt 2017). Still, much more research is needed to obtain stronger results that lead to the provision of a general sustainable framework. It is apparent from the literature that globally, studies on the specific notion of governance and sustainable development within the higher education sector remain scarce. Our observations are supported by findings from Baker-Shelley et al. (2017), Mader et al. (2013) and Spira et al. (2013). There is thus a need to address these limitations, to enable greater impact for the proliferation of sustainability governance within higher education institutions.

### *Advantages of sustainability governance to higher education institutions*

Sustainability encased governance in higher education is a new social contract with society and environment (Gibbons 1999). Institutions of higher learning draw advantages through a transactional view of education that builds social entrepreneurship (Dacin et al. 2011). Governance-enabled and sustainability-empowered higher education can benefit as social audit that usher creative enquiry encased in ethics (Johnson et al. 2016). Another advantage is the creation of learner-eco-systems that network and disseminate need for governance and adds adaptivity (Crow 2010a). Governance enables heterogeneity and adds the role of scale in sustainability education to combat sustainability challenges with respect to climate unpredictability, air deterioration, water insecurity and overuse of natural resources. The advantages are summarized in Table 1.

Higher education dilemma	Contribution through Sustainability practices	Benefits derived from Governance	Next steps
Quantum of sensitivity to societal, environmental and economic repercussions	New Social contract with society & environment (Gibbons 1999); policymakers, corporate / services and people	Learner eco-systems that gets disseminated (Crow 2010a)	Has seminal effect, lays foundations for governance-enabled and sustainability-empowered higher education
Trusteeship, heterogeneity with	Sustainability-empowerment, community	Governance enable heterogeneity on	Societal fabric is interspersed in the



<del>local, regional, global challenges (Crow 2010b)</del>	<del>outreach to environment inclusive habitats (Keddy 1991)</del>	<del>outlook (Nordqvist et al. 2014)</del>	<del>curriculum that needs to be governance-enabled (Deemer and Horvath 2017)</del>
<del>Governance-ingrained finance for sustainable education could restructure brick and mortar with online virtual education (Leer and Ivanov 2013)</del>	<del>Systemic social transformation (Cobián and Reátegui 2009).</del>	<del>Role models incorporate governance attributes</del>	<del>Connectivity among financing and governance in education services (Klugman 1999)</del>
<del>Massively multi-user online graphical environments (Yee 2006)</del>	<del>Virtual teams can group-in policy makers, processors and community as virtual teams. Social networking environments can spread across geographical habitats (Christensen et al. 2007).</del>	<del>Navigating the Anthropocene (Biermann et al. 2012)</del>	<del>Games-based learning on disaster preparedness (Connolly et al. 2007)</del>

Table 1 – Advantages of sustainability governance to higher education institutions

~~A previous study on sustainable development policies as pre-conditions for sustainability efforts at universities (Leal Filho et al. 2018) has shown that albeit important, such policies are not essential for a successful engagement on sustainability efforts.~~

## 2. Some trends on governance on sustainable development at higher education institutions

The extent of the use of the term “Governance” is relatively new, but its essence is age-old. One of the first stages of the use of the governance concept is in the 1990s, linked to the international aid and donors, particularly to the International Monetary Fund (IMF), the World Bank and the United States of America (USA) (Nanda 2006). In this context, the concept initially focuses on economic issues. As the goal is that aid achieves success, nevertheless this concept goes beyond a single issue or institution, in this work, the specific target is the governance in the framework of HEIs. Good management is an initial step for good governance, but the close relationship between economics and politics immediately reveals the importance of the interdependence between economic governance (more linked to economic management) and political governance (more related to confidence in markets), which should be considered as a whole. Lewis T. Preston, a former World Bank President, highlighted the importance of good governance as an essential complement to economic policies. This is due to the fact that the markets’ efficiency is strongly related to a predictable and transparent policy framework in the public sector, and all of this is necessary for economic development (World Bank 1992). Later, it was underlined by Stiglitz (1999) that from the point of view of the economics of the public sector, market failures are as important as the way we address them. Whilst IMF, as well as World Bank, initially focused on economic issues, the US identified nine principles; including economic growth, democracy, governance, and social transition. Among them was





also the sustainability for achieving development (U.S. AID 2005). The European Union states that “European governance’ designates the body of rules, procedures and practices that relate to the way powers are exercised in the EU”, with the aim of strengthening democracy and bringing citizens closer to the European institutions (European Union 2018). The concept of governance is related to democracy, participation and sustainable development in all institutions and in HEIs in particular.

Sustainability encased governance in higher education is a new social contract with society and environment (Gibbons 1999). Institutions of higher learning draw advantages through a transactional view of education that builds social entrepreneurship (Dacin et al. 2011). Governance-enabled and sustainability-empowered higher education can benefit as social audit that usher creative enquiry encased in ethics (Johnson et al. 2016). Another advantage is the creation of learner-eco-systems that network and disseminate need for governance and adds adaptivity (Crow 2010a). Governance enables heterogeneity and adds the role of scale in sustainability education to combat sustainability challenges with respect to climate unpredictability, air deterioration, water insecurity and overuse of natural resources. The main advantages are summarized in Table 1.

<u>Higher education dilemma</u>	<u>Contribution through Sustainability practices</u>	<u>Benefits derived from Governance</u>	<u>Next steps</u>
<u>Quantum of sensitivity to societal, environmental and economic repercussions</u>	<u>New Social contract with society &amp; environment (Gibbons 1999); policymakers, corporate / services and people</u>	<u>Learner eco-systems that gets disseminated (Crow 2010a)</u>	<u>Has seminal effect, lays foundations for governance-enabled and sustainability-empowered higher education</u>
<u>Trusteeship, heterogeneity with local, regional, global challenges (Crow 2010b)</u>	<u>Sustainability-empowerment, community outreach to environment inclusive habitats (Keddy 1991)</u>	<u>Governance enable heterogeneity on outlook (Nordqvist et al. 2014)</u>	<u>Societal fabric is interspersed in the curriculum that needs to be governance-enabled (Deemer and Horvath 2017)</u>
<u>Governance-ingrained finance for sustainable education could restructure brick and mortar with online virtual education (Leer and Ivanov 2013)</u>	<u>Systemic social transformation (Cobián and Reátegui 2009).</u>	<u>Role models incorporate governance attributes</u>	<u>Connectivity among financing and governance in education services (Klugman 1999)</u>
<u>Massively multi-user online graphical environments (Yee 2006)</u>	<u>Virtual teams can group-in policy-makers, processors and community as virtual teams. Social networking environments can spread across geographical habitats (Christensen et al. 2007).</u>	<u>Navigating the Anthropocene (Biermann et al. 2012)</u>	<u>Games-based learning on disaster preparedness (Connolly et al. 2007)</u>

Table 1 – Advantages of sustainability governance to higher education institutions



1  
2 The HEIs concern on with long-term sustainability deals with projects, policies,  
3 certifications, and staff dedicated to this commitment. There are different ways of implementing  
4 sustainability at higher education institutions (Leal Filho 2010), and the work of Smith (1993)  
5 was one of the pioneers of this endeavour. Recently, Bauer et al. (2018) focused on the five  
6 dimensions of politics, profession, organisation, knowledge, and visibility and underlined the  
7 lack of a holistic approach, which is also claimed by Lozano (2018). Some works have  
8 contributed to this debate, such as Drahein et al. (2019), who presented eight models applied in  
9 a HEI context. There are different groups of change agents which are responsible for the  
10 advancement of the necessary changes, and that those changes into organizations structure  
11 should be analysed taking into account the interaction of the agents, organizational structure  
12 and culture (Spira et al. 2013). Despite the differences among HEIs structures and cultures, they  
13 face similar challenges related to sustainability governance (Soini et al. 2018). There is a strong  
14 relation between sustainability commitment and implementation, and signing of declarations,  
15 charters, and initiatives (DCIs) (Lozano et al. 2015).

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21 Drahein et al. (2019) studied 170 HEI directives and concluded that there is a consensus  
22 on the difficulty of the academic community's perception on the importance of developing a  
23 sustainability model for managing HEI institutions. They underline the importance of the  
24 adoption of sustainable practices and auditing them. Agents interaction, organization, and  
25 culture of the institution, as well as the help coming from tools, certifications, and legislation,  
26 among others, are important items needed to justify a sustainability agenda towards local  
27 decision makers (Spira et al. 2013).

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30 One of the outcomes of the assessment process is boosting the learning process to  
31 improve and change institutions (Disterheft et al. 2016). Evaluating achievements on  
32 sustainability is not easy as there is not a unique measurement or instrument for evaluating  
33 results (Popescu and Bebeau 2014). Several specific tools and mechanisms were applied in  
34 several universities which ranked the various institutions (Disterheft et al. 2016). These systems  
35 include Quality Management Systems (ISO 9001), related to environmental issues  
36 Environmental Management Systems (EMS) were used, or in the field of Social Responsibility,  
37 the Social Responsibility Standards (SA8000 and ISO 26000) (Aleixo et al. 2018). The  
38 certification is not widely implemented in HEIs yet, as Aleixo et al. (2018) has proven; for  
39 example, over 60% of Portuguese HEIs have not gotten at least one certification. To generate a  
40 balanced report, which includes the environmental, economic and social performance, the  
41 Global Reporting Initiative (GRI) gives a number of essential reporting principles (Ferrero-  
42 Ferrero et al. 2018). As these principles are independent with differing focuses, a holistic  
43 approach for sustainability at HEIs is needed (Lozano 2018).

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48 The commonly accepted main issues related to governance point to the management of  
49 public resources as well as social and political issues (Kjaer 2011). Since sustainable  
50 development is based on the "triple bottom line" (economic, environmental and social) (WCED,  
51 1987), the narrow relation between them relies on their own nature. The complexity of the  
52 "governance" term, as well as semantic differences worldwide, come together with the  
53 multiplicity of factors involved in it. Something similar occurs with the related concept of  
54 Sustainability Reporting (Fonseca et al. 2011). Nevertheless, there is a common agreement  
55 about the intrinsic content of both concepts, which is determined by good management and  
56 wide and fair participation, in the framework of the so-called "three pillars of sustainability".  
57 The governance in the context of the HEIs becomes a key issue since they can be seen as a sub-

1 system in society called to play an important role in transforming their surrounding  
2 communities and society (Baker-Shelley et al. 2017). The deep social imbrication that  
3 universities must have with their surrounding reality and the need to adequately serve that  
4 society, may lead to thinking about governance formulas adapted to the socio-economic and  
5 environmental environment in which they find themselves.  
6

7 The engagement of HEIs with environmental issues has been widely recognized. In  
8 1972, the Stockholm Declaration on the Human Environment already stated the importance of  
9 education for environment preservation. This concern remains and increased due to the United  
10 Nations Higher Education Sustainability Initiative (UN HESI) created in 2012 in the run-up to  
11 the United Nations Conference on Sustainable Development (Rio+20) with the engagement of  
12 over 300 universities worldwide (United Nations, 2019). Another example of success is the  
13 Higher Education and Research for Sustainable Development (HESD) platform, partnered by  
14 the United Nations Educational, Scientific and Cultural Organization (UNESCO), among  
15 others, with the aim of becoming a global reference portal and for giving visibility and  
16 connection to actors and institutions in order to foster awareness and cooperation.  
17

18 But the HEIs' engagement with sustainability goes beyond environmental issues. In fact,  
19 besides the commitment with economic issues being particularly remarkable, the interest and  
20 influence of HEIs as an innovative motor (both technical and social) is widened to the  
21 sustainability issues (United Nations 1972) and it is recognized by society. Whereby HEIs  
22 socio-economic engagement is considered as its distinguishing purpose alongside teaching and  
23 researching (Vorley and Nelles 2009). Therefore, particular aspects such as good performance,  
24 management and decision-making become crucial. The social engagement of HEIs is in  
25 particular need of stronger analysis, in line with the "third mission" of universities (Trencher et  
26 al. 2014). This is due to the complexity of the two main dimensions (the internal -with members  
27 of the HEIs- and external -with society-) which are involved in most of the social issues of  
28 societies and goes beyond the internal management of the institutions. Participation is one of  
29 the pillars of good governance and Ceulemans et al. (2015) and Disterheft et al. (2015) have  
30 shown the importance of fostering participation for Higher Education for Sustainable  
31 Development (HESD), particularly from an institutional level.  
32

33 The assessment of the achievements, by means of some specific index is important in  
34 order to evaluate the advancements on Sustainable Development (SD) at HEIs. In this sense,  
35 sustainability report diffusion allows HEIs to know how and where improvements are taking  
36 place and see the role which they play in both the academic and society spheres (Drahein et al.  
37 2019). Some universities produce sustainability reports in different manners, some of them  
38 more than once a year (Spira et al. 2013). Nevertheless, academic literature has evidenced the  
39 low number (Alonso-Almeida et al. 2015; Ceulemans et al. 2015; Fonseca et al. 2011), quality  
40 (Fonseca et al. 2011; Lozano 2011) and consistency in reports (Alonso-Almeida et al. 2015).  
41 For example, less than half of Portuguese Universities implemented or produced  
42 sustainability reports, although they considered them relevant (Aleixo et al. 2018). Various  
43 sustainability models arose from the (GRI) (Global Reporting Initiative 2013), as summarized  
44 by Lozano (2006). Some limitations were shown in the GRI adaptation to HEIs (Fonseca et al.  
45 2011), particularly as it excludes some valuable indicators. In addition to the GRI, other  
46 sustainability assessment tools to be considered are the STARS (Sustainability Tracking,  
47 Assessment and Rating System), the AA1000 (Institute of Social and Ethical Accountability  
48 Standard), the EMAS (Eco-Management and Audit Scheme), the ISO 14001 (International  
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1 Organisations for Standardisation) and the SA8000 (Council on Economic Priorities  
2 Accreditation Agency Social Accountability Standard), among others.

3 In order to improve the SD in HEIs, having a specific budget is key. However, this is  
4 generally a weakness in a large number of institutions (Leal Filho et al. 2018). The lack of  
5 financial support is one of the obstacles to the implementation of a program or action plan as  
6 well as the limited human resources needed to boost these plans. This is due in part to the fact  
7 that the workers in charge of these issues (related to sustainability) are frequently involved in  
8 other tasks (Leal Filho et al. 2018). Aleixo et al. (2018) analysed the disposal of a specific  
9 budget for practices promoting SD among the Portuguese HEIs and found that it was the least  
10 implemented economic practice.  
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12 Governance, as a key for sustainability, is highlighted by Jones (2016) from the point of  
13 view of sustainable business models; pointing it out as one of the five mainstays for  
14 sustainability. In the holistic definition of more sustainable business models (MSBMs) provided  
15 by Lozano (2018), governance is a part of system elements, that is one of the companies'  
16 resources, which contribute to sustainability, and this issue is also extended to HEIs (Baker-  
17 Shelley et al. 2017). In the higher education setting, governance presents additional complexity  
18 to the concept itself. This added complexity lies in the dichotomy of higher education  
19 institutions, whose scope encompasses both teaching and research, together with the transfer of  
20 knowledge and social commitment. The complexity of the governance in HEIs is directly  
21 related to the characteristics of the framework in which their activity is carried out. The  
22 management and promotion of the participation of internal and external (social) agents is part  
23 of a very versatile world with very different profiles, ranging from the pure sciences to the  
24 humanities, through the social, technological or economic and law sciences (Soini et al. 2018).  
25 The Universities' staff are key point for promoting SD. The management and staff support are  
26 integral to the implementation of environmental management systems and sustainability. Lack  
27 of this support could become a barrier, which is why the commitment from senior and middle  
28 management staff on the implementation of sustainability initiatives it should be taken into  
29 account (Aleixo et al. 2018; Ceulemans et al. 2015) as well as the perceived support of superiors  
30 into the organizational structure in order to boost staff commitment (Baker-Shelley et al. 2017).  
31 On the other hand, key positions occasionally held down for many years by a single occupant,  
32 and in the case of the necessity of his or her replacement, it would most likely take the new  
33 staff many years to join the culture of sustainability (Leal Filho et al., 2018). To integrate  
34 sustainability issues into universities the expectation of academic and non-academic staff may  
35 differ, as well as those of the students (Ferrero-Ferrero et al. 2018; Ceuleman 2015). Their  
36 involvement on the HEI sustainability performance assessment process is greatly reliant on  
37 their own perceptions and practices and this influences the organization's performance.  
38 However, it has been found that employees tend not to be very knowledgeable on basic  
39 sustainability concepts, and are uncertain on what their practical mission in the whole  
40 mechanism for a sustainability performance assessment is (Coutinho et al. 2018).  
41

42 There is a lack of adequate personnel training to tackle matters related to sustainable  
43 development, which is for university staff to make them feel confident about the concepts of  
44 sustainability, and in turn include them as part of their day-to-day work (Leal Filho 2010). Due  
45 to the lack of knowledge among the staff, the necessity of education and training on  
46 sustainability issues has been underlined in the context of HEI, and that it would be better to do  
47 it before their engagement on the performance assessment (Coutinho et al. 2018). In this  
48 context, the implementation of a "sustainability codex" for new employees was suggested by  
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1 some experts (Bauer et al. 2018). Disterheft et al. (2016) highlighted the importance of training  
2 of staff, which has been proved by Leal et al. (2018) for Brazilian Universities.

3 ~~There is a growing demand for HEIs to play an active role in providing help in~~  
4 ~~responding to society's concerns, in which sustainability represents a particularly relevant issue~~  
5 ~~(Soini et al. 2018). HEIs are knowledge-producer institutions, which positions them as engines~~  
6 ~~of economic growth (Trencher et al. 2014) and, as a consequence, of sustainable development.~~  
7 ~~Additionally, their role as technology transfers to society, as well as education centres, put them~~  
8 ~~in the core of essentials of Sustainable Development Goals (SDGs) and in boosting~~  
9 ~~sustainability. All these aspects must be included to achieve good governance in the HEIs.~~

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12 ~~Given this, there is increasing research on the field of applied analysis (Gamage and~~  
13 ~~Sevilli 2017; Ramos et al. 2015; Rath and Schmitt 2017). Still, much more research is needed~~  
14 ~~to obtain stronger results that lead to the provision of a general sustainable framework.~~

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17 HEIs play a key function as benchmarks for sustainability research, education, and  
18 cooperation in sustainability transform. Simultaneously, their governance is facing a complex  
19 and changing situation, where further analysis is needed (Baker-Shelley et al. 2017; Soini et al.  
20 2018), particularly on the importance of evaluating the impact of universities on sustainability.  
21 This has already been approached in a quite fragmented way in the HESD field (Ceulemans et  
22 al. 2015), and its assessment could give some clues for specific ways to foster good governance  
23 on HEIs. Findler et al. (2019) has analysed sustainability assessment in higher education and  
24 showed that more research and advances are needed. At the same time, they emphasised the  
25 importance given to the governance issues in all analysed indicators.

### 30 3. Methodology

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33 In order to collect experiences from a sample of universities in the context of governance  
34 and sustainability, an international survey was developed. The following steps summarise the  
35 process undertaken:

- 36  
37 a) The survey instrument was developed by the authors following not only items covered  
38 by the literature (such as sustainability plans, certification and reporting) but also an  
39 investigation concerning the main challenges for integrating governance and sustainable  
40 development. It was pre-tested in the authors' universities in order to check for  
41 redundancies and ensure the quality of the instrument. A summary of the survey is  
42 presented in Table 2. In the end, an open space for comments or highlights was also  
43 provided.

49 Question/topic	Possible Responses
50 One common governance instrument is a 51 sustainable development policy, programme 52 or action plan. In this context, please tick one 53 of the relevant boxes:	-My university already has a sustainable development policy, programme or action plan; -My university does not yet have a sustainable development policy, programme or action plan, but plans to produce one; -My university does not yet have a sustainable development policy, programme or action plan, and does not plan to produce one.
54 55 How are matters related to sustainable 56 development addressed at your university?	-Under the coordination of the Rector or Vice-Chancellor/Principal; - Under the coordination of one of the Pro-Vice-Chancellors or Vice- Rectors; -Under the coordination of a sustainability office or green office; -Decentralised at the Faculties level; -There is no formal sustainable development structure at our university; -Other



1	Is your university certified by one of the	Yes; No
2	common mechanisms (e.g. ISO/EMAS)?	
3	If the answer is yes, which one (multiple	ISO 9000; ISO 14001; EMAS (Europe); STARS (North America);
4	choices possible):	Other
5	Is there a budget from the central	Yes; No
6	administration to support efforts related to	
7	sustainable development?	
8	Does the university produce regular (e.g.	Yes; No
9	yearly, bi-yearly) sustainability reports?	
10	Are there members of staff (e.g. a	Yes; No
11	sustainability coordinator) specifically to	
12	support efforts related to sustainable	
13	development?	
14	Are there specific training programmes or	Yes; No
15	opportunities related to sustainable	
16	development? If so, which options are offered?	
17	Which elements pose a challenge to the efforts	
18	of integrating governance and sustainable	Lack of expertise; Lack of interest from staff; Lack of funding; Lack of
19	development? (multiple choices possible)	materials/resources; Lack of support from administration; Other
20		

21 Table 2 – Summary of the survey instrument to collect experiences on governance and  
 22 sustainability at HEIs

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 27 b) After the pre-test, the online survey was shared using the application Google Forms. All  
 28 members of the Inter-University Sustainable Development Research Programme  
 29 (IUSDRP, <https://www.haw-hamburg.de/en/ftz-nk/programmes/iusdrp.html>) received  
 30 the invitation to participate in the survey. This international programme has currently  
 31 more than 120 universities as members and covers all continents.

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 34 The survey remained open for one month (March/2019) and received 46 responses from  
 35 different universities. The sample is divided into 41% universities from Latin and North  
 36 America, 35% from Europe, 13% from Africa, and 11% from Asia-Pacific. The participating  
 37 countries are indicated in Figure 1 and include: Australia, Brazil, Canada, Chile, Colombia,  
 38 Egypt, Ethiopia, Germany, India, Ireland, Italy, Latvia, New Zealand, Nigeria, Poland,  
 39 Portugal, Romania, Serbia, South Africa, Spain, Switzerland, Taiwan, Tanzania, The  
 40 Netherlands, UK, and USA. In addition to this global representation, the sample of HEIs is also  
 41 rather balanced in terms of number of students. Around 37% of the universities has less than  
 42 10.000 students; the same percentage is observed for universities with number of students  
 43 between 10.000 and 25.000, and 26% with 25.000 students or more. Each classification is  
 44 represented by universities of all regions.

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 51 c) The final step is the presentation of results through descriptive analysis. The results of  
 52 each question/topic from the survey was presented and discussed in relation to the  
 53 literature review. With support of the software SPSS, potential correlations between the  
 54 existence of a governance instrument (sustainable development policy, programme or  
 55 action plan) and the existence of certification, budget, report, staff and training was also  
 56 assessed. For that, the Spearman correlation test was used (for non-normal distributions,  
 57 as verified by the Shapiro-Wilks test).



1 The additional space for comments at the end of the survey also provided interesting topics  
2 that were brought to the discussions.  
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#### 5 **4. Results and discussions**

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7 This section presents the descriptive analysis and discussions from the survey results.  
8 The following topics are presented: sustainable development policy, certification,  
9 organisational structure, budget, reports, team for sustainability, staff training, and challenges  
10 for the integration of sustainability and governance.  
11

12 When it came to having a sustainable development policy as a governance instrument,  
13 63% of the respondents answered that their university already has a sustainable development  
14 policy, programme or action plan; 20% answered that the university does not have it, but plans  
15 to produce one; and 17% answered that the university does not have one and does not plan to  
16 produce one. The majority of universities (65%) do not have a certification, while the rest of  
17 the responses (35%) do have certifications from one or multiple certification bodies (25%  
18 responded yes for having more than one certification). Some of the certifications are region  
19 oriented, for example, EMAS (Eco-Management and Audit Scheme, for countries under EU,  
20 awarded to organisations that continuously improve their environmental performance), and  
21 STAR (Community Rating System, which evaluates local sustainability mainly in North  
22 America). The majority of universities with certifications received it through ISO. Table 3  
23 shows the list of certifications on sustainable development awarded to the universities.  
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Certification	% (N = 16)
ISO 9000	44%
STARS	37%
ISO 14001	19%
EMAS	13%
ISO 50001	6%
PRME	6%

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\*the percentage is more than 100% as some university responded receiving more than one certification

Table 3 – List of certifications on sustainable development awarded to universities\*

Both sustainable policy and certification relates to long-term sustainability. Developing a policy for sustainability demands involvement of several stakeholders at the university, requiring the commitment of a certain group of managers. As far as certification is concerned, the first challenge is to involve all departments, schools, centres, and other structures, so the certification requirements can be implemented at the university. All these actions take time, and produce long-term benefits for the university. In this way, when 63% of respondents indicates that the university has a policy in practice, but only 34% (16/46) have certifications implemented, it means the university is looking into the future. However, there is still room to implement further long-term activities', as certifications boost the learning process and improve and change institutions, as indicated by Disterheft et al. (2016).

The organisational structure of the university plays an important role in matters related to sustainable development. When a university does not organize itself to undertake actions towards SD, the institution is considered to be in the early stages of sustainability; meaning that there is no formal sustainable development structure in place. A university could arrange itself in order to address sustainability by producing a coordination office or a green office. The coordination might be under the structure of pro-vice-chancellor or vice-rectors, the rector,

1 vice-chancellor or principal, or decentralized at the faculty’s levels. Other organizational  
 2 structures are also possible.

3 Related to this issue, 30% of the sample responded that their universities have a  
 4 sustainability office or green office responsible in coordinating matters of on sustainability  
 5 (Table 4). About 22% of universities do not have a formal sustainable development structure.  
 6 Whilst the remainder, where there is no sustainability office or green office, about 30% (15%;  
 7 15%) are under the coordination of their pro-Vice Chancellor/Vice Rector or Rector/Vice  
 8 Chancellor/Principal. Lower percentages of universities addressed the matter of sustainable  
 9 development through Student’s office and sustainable committee.  
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15 Responses	15 % (N = 46)
16 Under the coordination of a sustainability office or green office	30%
17 There is no formal sustainable development structure at our university	22%
18 Under the coordination of one of the Pro-Vice-Chancellors or Vice-Rectors	15%
19 <del>Decentralised at the Faculties level</del>	<del>15%</del>
21 Under the coordination of the Rector or Vice-Chancellor/Principal	13%
22 Student Office of Sustainability	2%
23 Sustainable committee	2%

24 Table 4 – Mechanism of sustainable development related matters addressed at university

26 The largest proportion of the sample (78%) has some kind of organization, showing they  
 27 are interested in addressing sustainability in a structured manner. However, 22% of universities  
 28 have no formal sustainable development structure, even though the respondents are members  
 29 of the IUSDRP. This indicates that universities still have scope to be more involved in  
 30 sustainability, but it may also represent a barrier. As indicated by Baker-Shelley et al. (2017),  
 31 the perceived support of superiors into the organizational structure boost the staff commitment,  
 32 which is why the commitment from senior and middle management staff on the implementation  
 33 of sustainability initiatives should be taken into account (Aleixo et al. 2018; Ceulemans et al.  
 34 2015).

35 Engagement is a necessary step towards sustainability and the following topics were  
 36 questioned: available budget for sustainable development efforts, use of sustainability reports,  
 37 staff members dedicated to sustainable development efforts, training programmes or  
 38 opportunities related to sustainable development. Results are presented in Figure 24.

39 With these results, it can be inferred that all engagement areas have room for  
 40 improvement. Even though the lack of budget is generally a weakness in a large number of  
 41 institutions (Leal Filho et al. 2018), by increasing the central budget in some other areas -such  
 42 as reporting and increasing the number of staff to support sustainability efforts - could be  
 43 consequently improved. In terms of reporting, some authors indicate that by report diffusion,  
 44 the HEI would know how and where to improve, which could improve their position in terms  
 45 of the academy and society (Drahein et al. 2019). The offer of specific training programmes or  
 46 opportunities related to sustainable development is in line with the suggestion of Disterheft et  
 47 al. (2016). In order to address issues of low staff training the implementation of a “sustainability  
 48 codex” for new employees, as suggested by some experts, could be introduced (Bauer et al.  
 49 2018).

The programmes or opportunities indicated by the respondents are mainly courses offered by the university. Besides that, universities apply other actions to promote sustainable development, as shown in Figure 23.

There are many challenges to governance integration and sustainable development. Such as, a lack of funding, lack of support from administration, lack of expertise, lack of interest from staff and lack of materials/resources. In Table 5, a summary of challenges to the efforts of integrating governance and sustainable development is presented. The percentage is more than 100% as this question accepted multiple answers.

Challenges	%
Lack of funding	72%
Lack of support from administration	61%
Lack of expertise	50%
Lack of interest from staff	50%
Lack of materials/resources	48%

Table 5 – Challenges to the efforts of integrating governance and sustainable development

Besides these factors, in an open question the respondents indicated other challenges, such as willingness to contribute, lack of time, lack of political support, and not recognizing the Sustainable Development Goals (SDGs) as a way out. The two biggest challenges – lack of funding and lack of support from administration – indicate a need for more engagement from the universities’ higher organizational structure.

These results are in line with Aleixo et al. (2018), Ceulemans et al. (2015) and Leal Filho (2010) regarding lack of support from administration; and with Coutinho et al. (2018) regarding lack of interest from staff which could be generated by low staff knowledge and training on issues related to sustainability.

In order to verify the correlation between the existence of governance instruments and the use of certification, dedicated budget and staff, sustainability report, and training opportunities, the Spearman correlation test was used. The results, as indicated in Table 6, show that having a governance instrument (such as a sustainable development policy, programme or action plan) is directly connected to having dedicated budget and staff for sustainability as well as the use of sustainability reporting. This reveals the positive impact of having governance instruments on other important sustainability issues of HEIs. The highest values of correlation were observed in the relation between dedicated budget and development of sustainability reporting, and dedicated staff for sustainability efforts and reporting.

	Governance Instrument	Certification	Budget	Report	Staff	Training
Correlation						
Governance Instrument	Coefficient	1				
	Sig. (2-tailed)	.				



	Correlation Coefficient	0.081	1				
Certification							
	Sig. (2-tailed)	0.593					
	Correlation Coefficient	.393**	.350*	1			
Budget							
	Sig. (2-tailed)	0.007	0.017				
	Correlation Coefficient	.471**	.437**	.703**	1		
Report							
	Sig. (2-tailed)	0.001	0.002	0			
	Correlation Coefficient	.509**	.384**	.580**	.669**	1	
Staff							
	Sig. (2-tailed)	0	0.008	0	0		
	Correlation Coefficient	0.257	0.094	.348*	.480**	.365*	1
Training							
	Sig. (2-tailed)	0.084	0.532	0.018	0.001	0.013	

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

Table 6 – Correlations between governance and sustainability issues in HEIs

Based on the correlation analysis, it is also possible to identify the variables with most correlations. Report correlates to all variables, indicating that by developing a sustainability report, all other topics can be influenced (5/5). The second variable that most correlates to the others is staff (4/5), indicating that having staff dedicated to issues related to sustainability can also influence SD. Budget correlates with some of the variables (3/5); certification only correlates with two variables; and training correlates only with one variable (reporting). Figure 43 presents the relevance of the studied variables.

Finally, some additional comments sent by the respondents provided interesting topics. It showed different levels of commitment/impact for SD. For example, one respondent indicated that the university is at the lowest level of adopting sustainable patterns. Another respondent also indicated that the university still does not address sustainability, but that a professor started recently a ‘Sustainability Club’, which triggered some actions at the universities highest structure levels.

Regarding an active role in the university, one respondent indicated that their university is a signatory of the Talloires Agreement, while in other university STARS was recently introduced and was trailing Green Impact for over a year. Concerning certifications, one respondent stated that the focus had been more on EMAS, and not strictly on SD. This is in line with Lozano et al. (2015), as there is a strong correlation between sustainability commitment and implementation, and signing of declarations, charters, and initiatives (DCIs).

In terms of university involvement to SD, one respondent answered that SD should start

56 at the bottom with courses and certifications, otherwise the HEI will not engage on  
57 sustainability. Another respondent added that the way sustainability is treated in the university  
58 depends on which field is the dominant one at the HEI. They also indicated that campus service  
60 providers are key to succeeding in the implementation of SD.

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1 In terms of criticisms, one respondent addressed the need to explore ecology as a science  
2 in a deep way, otherwise only common science will come out. Another respondent indicated  
3 that this research “seems to assume that sustainable development or ESD are a ‘good thing’”.  
4 The objective of this research was not to discuss SD or ESD as positive or negative, but to  
5 identify how governance and SD are related at university level.  
6  
7

8 The implications of the study are threefold. Firstly, it sheds more light on the subject  
9 matter of governance and sustainable development at higher education institutions, outlining  
10 some of the items which influence it. Secondly the review of current global developments and  
11 limitations on governance and sustainability within the higher education sector shows that  
12 whereas governance is regarded as important, there are some challenges which are being  
13 observed and which need to be addressed to as to provide a basis for long-term developments.  
14 These include lack of funding, lack of support from administration, lack of expertise, lack of  
15 interest from staff and lack of materials/resources, problems which, if not addressed, may  
16 compromise the ability of higher education institutions integrate governance and sustainable  
17 development.  
18

19 Finally, the findings from study suggest that higher education institutions which have  
20 plans to implement a sustainable development policy as a governance instrument, are more  
21 likely to engage academic and service staff on sustainability efforts, than those who do not.  
22

## 23 5. Conclusions

24 This paper has outlined the various means via which governance are seen as influencing  
25 the ways higher education institutions handle matters related to sustainable development. The  
26 study has one limitation in the sense that the sample, entailed responses from 46 different  
27 universities. However, since it encompassed universities from Latin and North America,  
28 Europe, Africa, and the Asia-Pacific region, it offers a rough profile of the trends currently seen.  
29 The assessments of an analysis of sustainable development policies, certification,  
30 organisational structure, budget, reports, team for sustainability, staff training, and challenges  
31 for the integration of sustainability and governance has shown that some disparities exist. For  
32 instance, many higher education institutions do not have any plans to implement a sustainable  
33 development policy as a governance instrument, and do not plan to produce one. In addition,  
34 many universities do not have any kind of certification, which may demonstrate the institutional  
35 commitment (or lack thereof) to sustainability. In addition to this, organisational structures  
36 cannot be regarded as fully satisfactory; there are many constraints related to budgetary  
37 provisions, reporting or staff training. The latter element is very important, as it provides a  
38 sound basis upon which academic and service staff may engage on sustainability efforts.  
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40 Overall, evidence from this study suggests that even though there are different opinions  
41 and attitudes on the role of governance, and the need for formal documents and commitments,  
42 it can still be regarded as an important component in supporting efforts of higher education  
43 institutions to include considerations on sustainable development as part of their strategies.  
44 Governance instruments (such as sustainable development policies, programmes or action  
45 plans), especially when associated with a dedicated budget, staff for sustainability, and the use  
46 of sustainability reporting, leads to positive impacts on the ways sustainability issues are seen  
47 and implemented at higher education institutions.  
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1 As to future prospects, this paper has provided some useful insights into the  
2 complexities of governance as a factor influencing the institutional emphasis given to  
3 sustainable development. It is suggested that further studies be performed, to shed further light  
4 on how rules and standards may govern the conduct of people within each organisation.  
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Figure 1 – Countries of the participating universities



Figure 2 – Engagement towards sustainability

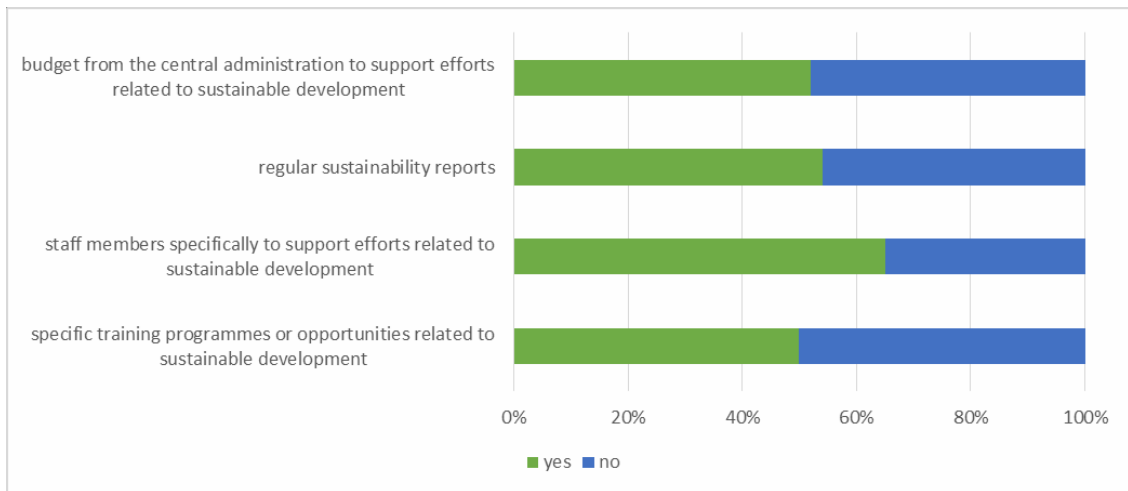


Figure 3 – Programmes or opportunities related to sustainable development offered by the universities

Sustainable waste management, waste and water treatment plan.	PhD in Energy and Sustainable Development.	Short courses for staff, faculty and students including sustainable citizens program, green office program, ecomentors.	Outreach programmes, specific activities from research projects, living labs in the campus, and some education programmes in curriculum.
Working sustainable competencies in some degree and doing a sustainable workshop for all university.	Workshops, initiatives for students and staff, presentations, keynotes.	Trainings yearly for new courses/curriculum. For staff on sustainable event planning. Trainings on waste diversion.	Environmental awareness (ie. recycling, energy reduction) and global compact.

Figure 4 – Variable relevancies

