Article

Drivers for Universities' Contribution to the Sustainable Development Goals: An Analysis of Spanish Public Universities

Natividad Blasco [ID], Isabel Brusca *[ID] and Margarita Labrador

Faculty of Economics and Business, University of Zaragoza, Gran Vía, 2, 50005 Zaragoza, Spain;
nblasco@unizar.es (N.B.); labrador@unizar.es (M.L.)
* Correspondence: ibrusca@unizar.es

Abstract: Universities have a critical role in achieving the Sustainable Development Goals (SDGs), both for implementing active policies and for encouraging other actors to participate. This requires having the skills and mind-sets to contribute to these challenges. The relevance and the commitment of universities to sustainability has led to the inclusion of SDGs in the strategies and agendas of these institutions. This requires the involvement of all the actors and some structural and cultural changes that put SDGs at the core of the governance and management of the university, embracing all the stakeholders. Various internal and external factors may influence the impact and success of the policies and activities aiming at achieving the SDGs, both from an overall perspective and for individual SDGs. This paper assesses the influence of some internal factors, such as the presence of universities on the internet, the level of internationalization or the availability of financial resources. Through both regression analyses and the Gephi method, our results confirm the importance of the presence on the internet, the internationalization of the university and the financial resources for research and infrastructure received from regional governments for Spanish public universities to make a greater contribution to SDGs.

1. Introduction

Sustainable development has become a global political and social issue in the last decades. The concept was defined by the World Commission on Environment and Development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" [1], in an attempt to balance the economic and environmental concerns to achieve human well-being. It is used as an umbrella concept [2] and has been related, since its origin, to the concept of sustainability, and sometimes even used as a synonym. Nevertheless, there is a stream of literature which argues that the two concepts are different [2,3]. For example, for Sartori et al. [2] (p. 2), "sustainable development is the goal to be achieved and sustainability is the process to achieve sustainable development". In any case, what does exist is the consensus that Sustainable Development covers economic, social and environmental sustainability and involves multiple stakeholders [4], such as governments, managers of public and private entities or citizens, who should take this into account in their decision making process.

Universities are leaders in education, research and innovation, and therefore have a key role in the social change and development of societies and economies. As the literature points out [5,6], their involvement in global sustainable development is a cornerstone of the strategy of universities in relation to their teaching, research and third-mission activities [7–9].

In 2015 the United Nations General Assembly approved the 2030 Agenda for Sustainable Development as a continuation of the Millennium Development Goals (MDGs). The

Agenda contains 17 Sustainable Development Goals (SDGs), to promote the commitment of the global community to "achieving sustainable development in its three dimensions—Economic, social and environmental—in a balanced and integrated manner" [10]. The SDGs are broken down into 169 targets, aiming at a holistic approach to achieving sustainable development for all, including ending poverty and hunger, achieving gender equality and the realization of human rights world-wide, as well as ensuring the protection of the planet and its natural resources. They involve a complex range of social, economic and environmental challenges, that requires the commitment of all actors toward the transformation of societies and economies. Their implementation is a worldwide challenge for all types of organizations, public and private, a challenge made even more demanding by the Covid pandemic during the last year.

Universities have a critical role in achieving the SDGs [11] but also in promoting them within their sphere of influence [12]. Their responsibilities and leadership in education, research and innovation mean that they have a key role in helping society address these challenges. In particular, SDG 4 (Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all) requires active action by universities, as most of its targets are directly related to learning and teaching. Nevertheless, the contribution of universities must be made from an integrated perspective, that covers all the SDGs [13]. They have a double role, in implementing active policies for developing SDGs through all their activities and in promoting awareness among other actors, mainly students, of their role in achieving the SDGs and acquiring the skills and mind-sets needed to contribute to these challenges. The SDGs require the participation of every citizen, and they need the skills, attitudes and values that enable their participation [14].

Scholars have included SDGs in their research agendas from different perspectives, such as investigating how universities are educating students for developing SDGs [15], how they include the SDGs in the learning objectives of programs and syllabuses of different areas [16], and how research focused on sustainability and SDGs is carried out in universities [17].

There is also a stream of literature that deals with the challenges and opportunities of universities for implementing the SDGs [9]. However, there is not much literature about how universities are performing in terms of achieving SDGs from a global perspective. Although an integrated perspective for the implementation of SDGs is required, as we have mentioned before, it is expected that the contribution of universities will focus particularly on SDG 4-Quality Education, SDG 5-Gender Equality, SDG 3-Good Health and Well-being, and SDG 17-Partnerships, as the latter is aimed at strengthening the means of implementation and revitalizing the global partnership for sustainable development.

This paper contributes to the literature about the implementation of SDGs in universities and tries to assess which factors can influence their progress from an individual and microeconomic perspective, as well as to what extent common patterns can be identified in the contribution of universities to SDGs. As far as we know, this is the first paper studying the contribution to SDGs in Spanish universities from a quantitative perspective. Firstly, the paper analyzes the impact of three areas on the performance of SDGs in universities: the financial resources available to the universities, the internationalization of the universities, and the presence of universities on the internet. We analyze how these factors can act as drivers for progress in achieving SDGs. Secondly, the paper examines how these factors influence the performance of universities in relation to some specific SDGs about which these institutions report more frequently. Finally, the paper presents a cluster of universities in order to assess the similarities and differences in their contributions to SDGs with respect to these driving factors.

The paper uses the impact ranking developed by the Times Higher Education World University Rankings [18] to measure the progress of universities in achieving the SDGs. Furthermore, the paper also analyzes which SDGs are more relevant and receive a stronger commitment from Spanish universities. Academic rankings are a tool for comparing universities [19] and serve as an incentive to improve their management and their image.

The selection of the universities for this study is based on the availability of information for the purpose of comparability, which leads to some limitations. The reason for selecting this university ranking is that it offers disaggregated information about the contribution of universities to the 17 SDGs, which can provide evidence of which SDGs are more relevant for these institutions and how universities are contributing to them. The paper is initially focused on the 32 Spanish universities included in the ranking.

A wide range of variables was initially considered for the analysis of internal factors that could drive the achievement of SDGs in universities: different measures of their presence on the web dealing with the activity and visibility of the institutions, information on the rankings constructed by the BBVA Foundation and the Valencian Institute of Economic Research (IVIE) [20] to assess the performance of the Spanish university system in teaching and research and innovation, and various statistics relating to labor integration, international students, grants and economic indicators published by the Ministry of Education (SIIU) [21]. Nevertheless, after a preliminary regression analysis, it was decided to focus on those variables that could be of interest because of their significance.

The results show that the provision of external financial resources for research and infrastructure has a positive impact on university performance in terms of SDGs, as well as the level of internationalization (specifically, international attractiveness) and the presence of the universities on the internet. However, the ratio of total financial resources per student is not a driving indicator of a university's performance. Furthermore, the results reveal that SDG 3. Good Health and Well-being, SDG 4. Quality Education, SDG 5. Gender Equality and SDG 17. Partnerships for the goals are receiving the greatest interest from universities and that these goals are closely related to the above-mentioned driving factors. The study contributes to the literature about SDGs in universities by means of a practical application in Spanish universities. The results should be of interest to university managers and stakeholders and can serve to encourage universities to increase their progress in achieving SDGs and to show what policies must be implemented in order to contribute to such progress. They can also be particularly useful for policy makers and regulators when evaluating the benefits of financial support offered to universities for research and capital expenditures.

The paper is structured as follows. The next section presents a synthesis of previous research on SDGs in universities and examines the challenges facing their implementation as well as the factors that can have a potential effect on their achievement. Section 3 describes the data base and the methodology used. Section 4 contains the analysis of the results and the discussion. The last section draws some conclusions, highlighting the contributions of the research, the way forward and the limitations.

2. The Contribution of Universities to SDGs: Literature Review

Universities have an important role in supporting the 2030 Agenda for Sustainable Development and contributing to the achievement of the SDGs [22]. Through their teaching, research and third mission they can involve other actors in collaborating in the success of the 2030 Agenda, equipping them with the skills and capabilities required to participate in working to achieve the SDGs (Sustainable Development Solutions Network [23]). In their teaching role, universities can encourage awareness among students of the relevance of the SDGs and how they can contribute to their achievement [24,25]. Research can also be beneficial from two perspectives: analyzing the state of the art in the SDGs from different viewpoints and promoting innovation and technologies that contribute to these goals. In their third mission, universities have the opportunity to involve other institutions and businesses in the challenge of achieving the SDGs as well as transferring to other economic areas the innovation and advances required to meet this challenge. Finally, the management of universities must also be involved in the achievement of the goals, not only to promote them but also to adopt active policies toward the SDGs from the economic, social and environmental perspectives.

2.1. Measuring and Reporting the Contribution of Universities to SDGs

Higher education institutions, and particularly universities, have considered sustainability as a core objective for management, and in recent years they have included the SDG framework as a means to achieve a more sustainable world. The literature contains many works focused on measuring and reporting sustainability in universities [5,26–28], evidencing that there is still some room for improvement. There are also many proposals for the assessment of sustainability in universities [28], but in practice universities have not integrated these into their strategies and management [7]. Various stakeholders are demanding that accountability should be extended to this area in universities, as well as in many other public entities.

Within this framework, SDGs are becoming part of the sustainability strategies of universities, and interest in their contribution has increased. Most universities have included them in their agenda. However, not so much effort has been put into the measurement and reporting of the contribution of universities to the SDGs.

This shows that the measurement of the contribution of universities to SDGs is a worldwide challenge. The problem is how to measure this contribution when there is not enough external information available. This is because it is not mandatory for universities to disclose their contribution toward SDGs, but individual initiatives are welcomed in the literature and research, such as those presented by Mori Junior et al. [9] in the Royal Melbourne Institute of Technology University.

This also means that it is difficult to compare the contribution of universities in this field, given that each university can use different ways of measuring and analyzing the impact of the initiatives implemented and their outcomes.

An option that can help overcome these difficulties is the creation of rankings. In the sustainability area, an example is the green ranking of universities created by Universitas Indonesia (UI GreenMetric World University Ranking [29]) and based on an online survey about the policies and practices of sustainability in universities. Even if the ranking has some limitations [30], it can act as an incentive for universities to improve sustainability, a stimulus to create "sustainable futures" [31].

In the field of SDG contributions, there is also an initiative to elaborate a ranking based on the performance of universities in their commitment. The ranking is compiled by Times Higher Education [18] and has been welcomed by researchers, given that it offers information about the contributions of universities to the SDGs and that its focus is on the impact and the outcomes, providing quantitative indicators for each SDG and a global score. Another potential benefit is that it can motivate and drive initiatives that support sustainable development.

Scholars and researchers are using the ranking to measure the performance of universities in terms of the SDGs. For example, Perović and Kosor [14] analyze the efficiency of public expenditure of universities in achieving SDGs, making use of the University Impact Rankings. Through Data Envelopment Analysis (DEA), their results show that only three to four countries were fully efficient. At a micro level, only about 16 percent of universities were efficient. Their performance could be much improved, without increasing the inputs, especially in terms of supporting SDGs through the cooperation with other countries, the promotion of best practices and the publication of data in cooperation with foreign authors.

Regarding the reporting on policies and practices that support the implementation of the SDGs, there are no specific initiatives and, with some exceptions [25], universities do not measure and report specifically about their contributions to SDGs. A similar situation has been found for stock market companies by Mori et al. [32]. At the moment, universities, as well as other institutions and private companies, use their sustainability report to account for their policies toward the SDGs, but it is important that the report is adapted to this end, and to date there have not been many advances or initiatives in this area.

2.2. The Influence of Internal and External Factors on the Progress and Contribution to SDGs

The implementation of SDGs requires some structural and organizational changes that can facilitate the cooperation of stakeholders in this field [33], grouped by Kang and Xu [34] around four elements: value, strategy, partnership and transparency. At the same time, there are some factors that can have an impact on the progress of a university in implementing SDGs. First of all, it is necessary that stakeholders participate in the process of change, show that they see that the adoption of SDGs can have benefits not only for the whole community but also for themselves, and cooperate in the implementation of structural changes. Secondly, in order to make all these changes, financial resources are necessary for funding the process, as well as human resources. A commonly identified barrier to these changes is the traditional culture of staff, including managers, teachers and students, who are often resistant to change, so that those universities that have more open-minded staff will have a higher probability of adapting to the new requirements to include SDGs in their strategic plans. Leadership has been also identified as a critical factor in the literature [22,33].

Even though the literature is scarce in this field, we can highlight some studies that have analyzed how these factors can operate in practice. Purcell et al. [22] investigate the case of three universities, aiming at showing how strategizing sustainability toward delivering the SDGs in a university setting can be successful. The authors conclude that it is essential that universities use the SDG framework as a means to achieve sustainability in their strategic agenda if they want to improve their contribution. Other factors that seem relevant are leadership at all levels, including by students, and partnerships within and between universities. The results show that networks between universities accelerate the delivery of the SDGs. Körfgen et al. [17] also show the relevance of increasing the collaboration between universities to support political decisions for SDG achievement. The authors also highlight the relevance of financial incentive structures that support the collaboration among universities.

Based on the previous literature about experiences of SDGs in universities [9,14,17,22] and sustainability [26–28], three factors have been selected in order to analyze their impact on the contribution of universities to SDGs. The rationale for each factor is explained below, as well as the corresponding hypothesis.

The Presence of universities on the internet. All higher education institutions have made significant efforts to increase their presence and visibility on the internet, acknowledging that this provides a number of indisputable advantages [35]. In the field of SDGs, the presence of universities on the internet may have several advantages, such as accountability and transparency [36] and more usable information being made available to more students, teachers and other actors [37]. This, in turn, provides greater satisfaction for the stakeholders and ultimately benefits for the quality of education and life. Furthermore, the internet can also be used as a tool for promoting SDGs and implementing effective policies to achieve them. Based on this idea, we define the following hypothesis:

Hypothesis 1. *Universities with a higher presence on the internet make a greater contribution to SDGs.*

The internationalization of the university. Internationalization within universities is particularly in demand nowadays, and universities are aware of its relevance on the road to improving and promoting their image [38]. At the same time, internationalization requires structural and cultural adaptations in order to make the university more visible and attractive for foreign students [35]. Those universities which are more attractive for international students may have developed a more advanced structural organization and greater cultural progress in order to incentivize students from other countries to come to the university, and this can have a potential positive impact on sustainability [39] and therefore on the contribution to the SDGs of the university.

Furthermore, internationalization shows the University's networks with other universities and, according to Purcell et al. [22] or Körfgen et al. [17], among others, these relationships may contribute to the development of the SDGs. Therefore, we have established the following hypothesis:

Hypothesis 2. *Universities with a higher level of internationalization make a greater contribution to SDGs.*

The financial resources available to the university. The implementation of policies and activities to achieve the SDGs requires the use of financial resources [23] to finance both current activities and capital expenditures, including research expenditure. The universities that have more financial resources will have more options to organize activities and define strategies that support the 2030 Agenda, such as learning and education courses in the SDGs or research activities that introduce innovation and technologies that can be successful for achieving the SDGs. Taking this into account, we define two hypotheses related with the financial resources available to the university:

On the one hand, the total revenues of the university per student serve to finance all the operating costs and also the infrastructure, grants to students or other activities. It would appear that those entities with higher revenues per student will be more likely to perform better in terms of SDGs. Based on this assumption, we define the following hypothesis to be tested:

Hypothesis 3. *Universities with higher revenues per student make a greater contribution to SDGs.*

On the other hand, the financial resources received from capital transfers should finance the research and capital expenditures of the university. In this respect, as the public universities in Spain depend on regional governments, these governments should cover the greater part of the capital expenditures to give the university enough financial flexibility to carry out this type of activity. Therefore, universities that receive more capital transfers for research and capital expenditures will also have more financial resources to invest in innovation and research, as well as in infrastructure, with a positive effect on SDGs. The fourth hypothesis is defined as follows:

Hypothesis 4. *Universities that receive more capital transfers for research and infrastructure from the regional government make a greater contribution to SDGs.*

3. Data and Methodology

3.1. Sample Selection, Variables and Data Sources

The sample initially comprised 32 Spanish universities included in the Times Higher Education ranking [18], 27 of which are public and 5 private. Nevertheless, some of the data used were not available for the private universities and therefore we have used only data from the public universities in the statistical analyses. In Spain, there are a total of 50 public universities. Therefore, the sample covers 54% of the total, which can be considered representative.

We use the University Impact Ranking (2020 edition) developed by Times Higher Education [18] to measure the contribution of universities to SDGs, which was developed to measure the achievement of the universities in delivering the SDGs. The ranking includes scores for the 17 SDGs (the 2019 edition included only the 11 considered most relevant to universities). Each SDG has a series of indicators that are used to evaluate the performance of each university. The metric is developed with the information submitted by the universities, but not all the universities submit information for every SDG. Some of them submit information for three or four SDGs only. In fact, only seven universities submitted information for all 17 SDGS. The score for each SDG is scaled so that the highest

score in each SDG in the overall calculation is 100 (considering all the universities in the ranking and not only the Spanish ones).

This ranking establishes two types of scores through data supplied by the universities: (a) the score for each individual SDG. This means that different universities are ranked based on a different set of SDGs, depending on their focus; (b) a university's overall score calculated by weighting its score in SDG 17 (based on the number of partnerships committed to the achievement of the SDGs) with its top three scores out of the remaining 16 SDGs. The study analyzes both the overall score and the scores for the more relevant SDGs in the field, identified as those for which the universities have provided the most evidence.

The independent variables

Presence of the universities on the internet (WP). To measure this variable, we use the Webometrics rankings developed by the Cybermetrics laboratory [40], a research group belonging to the National Center for Information and Documentation of the Spanish National Research Council. In particular, we used the web presence ranking, which is compiled based on the number of pages of the website covered by the search engines Google, Yahoo, LiveSearch and Exalead. As this is a position ranking, the lower the variable is, the higher the presence of the university on the internet.

Internationalization rate (IntR). This indicator shows the attractiveness that the university exerts on foreign students and is calculated by the quotient between the international incoming students and the university's own outgoing students.

Total revenues per student (RevStud). The indicator has been defined as the total revenues per student and represents the financial resources that the university has for financing expenditure. The higher the financial resources, the greater the expected contribution to SDGs.

Capital transfers for research and infrastructure (CapTransfers). Spanish public universities are financially supported by the regional governments, to which they are answerable. They receive two types of financial resources from the regional government: current financial resources, to cover the current expenditures, and capital transfers to cover research and infrastructure expenses. In order to study the relevance of resources available for research and infrastructure, we consider an indicator that evaluates to what extent the transfers received from the regional government cover capital expenditures, as those universities with a higher level of resources will have greater possibilities for contributing to the SDGs.

Table 1 summarizes the variables and the data sources for each of them.

Table 1. Variables included in the study and Data Source.

Variable	Definition	Data Source
Overall contribution to SDGs (CSDGs)	University performance in delivering the SDGs.	The University Impact Ranking developed by Times Higher Education (2020) [18]
Presence on the internet (WP)	Position in the Ranking of the Presence of the University on the internet, measured by the size of the main web domain of the institution. It includes all the subdomains that share the same (central/main) web domain.	Webometrics Ranking developed by Cybermetrics Lab (2020) [40]
Internationalization rate (IntR)	Number of incoming students/Number of outgoing students	Integrated University Information System (SIIU) [21]
Total revenues per student (RevStud)	Total Budget of the University/Total number of students	Budgetary reporting of the Universities and Integrated University Information System (SIIU) [21] published by the Ministry of Science and Innovation
Capital transfers for research and infrastructure (CapTransfers)	Total amount of transfers for research and infrastructure by the Regional Government/Total capital expenditures	Budgetary reporting of the Universities for the academic year 2020, downloaded from the websites of the universities.

3.2. Regression Analysis

The estimation process using regression analysis is twofold. On the one hand, ordinary least square regression with Newey–West heteroscedasticity-consistent standard errors and covariance is used in the estimation of the following global model to verify the influence of the different variables on the overall contribution of the university to the SDGs:

$$CSDGs_{Total_i} = \alpha + \beta_1 \wp_i + \beta_2 IntR_i + \beta_3 Revstud_i + \beta_4 CapTransfers_i + \varepsilon_i \tag{1}$$

where $CSDGs_{Total_i}$ indicates the overall score of university i in the University Impact Ranking developed by Times Higher Education [18]; α represents the intercept; $\beta_{1,2,3,4}$ are the coefficients determing the significance of the explanatory variables; and ε_i is the error term.

Due to the problems of correlation between RevStud and CapTransfers, we have used the residuals of the variable revenues per student that are not explained by the capital transfers variable.

On the other hand, individual ordinary least square regressions have been proposed to analyze the explanatory power of each driving factor on the most commonly reported SDGs, specifically SDG3, SDG4, SDG5 and SDG17. The estimator is also designed to accommodate heteroscedasticity (Newey–West cross-section standard errors and covariance). These individual regressions have the following general univariate structure:

$$CSDGj_i = \alpha_j + \beta_j EFk_i + \varepsilon_i \tag{2}$$

where $CSDGj_i$ represents the individual score of university i for the SDGj with j = 3, 4, 5 and 17; α_j is the corresponding intercept; β_j indicates the parameter estimate for the explanatory variable on the particular $SDGj$; and $EFki$ denotes the explanatory variable k = WP, IntR, RevStud, CapTransfers.

3.3. Clustering Analysis—The Gephi Method

Clustering universities in different groups can be useful to support and interpret the results of the previous analysis, as it offers information about similarities and differences among the universities in our sample. The cluster also helps to connect the contribution of the universities to the SDGs with the drivers analyzed in the regressions, as it is built using as inputs the statistically significant independent variables. Consequently, the groups arising as output are expected to show patterns related to the dependent variables. That is to say, using a different and complementary methodology, the purpose of this analysis is to test whether those universities with similar values of the significant drivers are expected to show similar contributions to the SDGs significantly influenced by such drivers.

In order to find common patterns of SDG contributions based on their drivers, we have used the Gephi software [41] to find similarities among institutions.

The Gephi software is an open-source visualization and exploration software for all kinds of graphs and networks, revealing the underlying structures of associations between objects. As the usefulness of a network analysis often comes from the data associated to nodes and edges, the Gephi graph in this paper consists of a set of nodes (universities) and a set of pairs of nodes called edges (the reciprocal of Euclidean distances among universities, in this case) that enable a dynamic network visualization taking into account the significant explanatory drivers. Specifically, in order to calculate the edge between each pair of universities i_m and i_n, we compute the reciprocal of the following Euclidean distance, calculated, in turn, using the standardized values of each significant driving factor.

$$D_{i_m i_n} = \sqrt{\sum_{SSEF} (SSEFk_{i_m} - SSEFk_{i_n})^2} \forall i_m \neq i_n \tag{3}$$

where $D_{i_m i_n}$ means the Euclidean distance between universities i_m and i_n; $SSEFk_{i_m}$ indicates the standardized value of the explanatory factor k for university i_m, with k = WP, IntR,

RevStud, CapTransfers, only if the driving factor has proved to be statistically significant in the previous analysis regression; *SSEF* indicates the group of standardized significant explanatory factors (those that turn out to be significant in the regression analysis among WP, IntR, RevStud and CapTransfers).

The standardization process is carried out to avoid the excessive weight bias of driving factors whose original values are very high compared with the value ranges of other driving factors.

The cluster detection involves the partition of a node network into communities of strongly connected nodes. The quality of such a procedure is often measured by its modularity, a scalar value ranging between −1 and 1 that compares the density of links inside communities with the links between communities and that is based on Newman [42] and the "Louvain algorithm" introduced by Blondel et al. [43]. The higher the modularity, the more accurate the clusters.

4. Results and Discussion

4.1. Descriptive Analysis

Table 2 shows the descriptive statistics of the variables under study. The average global contribution to the SDGs of the Spanish universities included in the ranking is 73.74 over 100, with a standard deviation of 10.15, which is a good indicator of their position in the ranking. Considering that the ranking is elaborated for 768 universities from 85 countries and that the maximum for the overall score is 98.5 and the minimum 28.5, it seems that Spanish Universities are above the average in general terms. The best Spanish University in the rank is in the 40th position with an overall score of 89.7, while the worst occupies a position in the range 401–600 with an average global score of 54.05.

Table 2. Descriptive statistics of the variables.

Variable	N	Average	Stand. Dev.	Coefficient Variation	Minimum	Maximum
Overall contribution to SDGs (CSDGs)	32	73.7453	10.1590	0.1378	54.0500	89.7000
Score SDG3	23	62.7630	13.7175	0.2186	35.1500	80.6000
Score SDG4	27	62.6333	14.1131	0.2253	31.7500	85.4000
Score SDG5	26	59.3577	8.2618	0.1392	46.5000	74.2000
Score SDG17	32	66.3094	16.7732	0.2530	20.9000	89.2000
Presence on the internet (WP)	32	875.8438	1020.0700	1.1647	87.0000	4373.0000
Internationalization rate (IntR)	31	1.2723	0.4752	0.3735	0.7000	3.1800
Total revenues per student (Revstud)	27	10,837.1300	2402.3100	0.2217	4079.8700	17,198.4500
Capital transfers for research and infrastructure (CapTransfers)	27	0.3594	0.5006	1.3929	0.0004	2.5964

The individual scores of the SDGs show that SDG 17 ranks highest, followed by SDG 3 and SDG4. The scores for SDG5 are also very close to these. In all of them the descriptive analysis shows that there is high variability, with big differences between entities.

With regard to the presence on the internet, based on a position ranking, the situation is very similar. In this case, the lower the variable, the better the presence. It can be seen that the first Spanish University appearing in the ranking is ranked 87, while the last is ranked 4373. The presence of universities on the internet has been related with web usability [37,44], and therefore better positions in the ranking may be an indication of better usability.

The internationalization rate shows that, on average, the Spanish Universities receive more foreign students than they send out, which demonstrates that Spanish universities

are attractive to foreign students. There are only five universities with a ratio under one, indicating that they have more outgoing than incoming students.

In relation to the financial resources, the table shows once again big differences among universities. While the average of revenue per student is 10,837 euros, this variable ranges from 17,198 euros to 4079 euros, the latter in one of the biggest universities. The same can be said for the capital transfers for research and infrastructure to cover capital expenditure. Whereas some universities cover all the capital expenditures, this percentage is insignificant for others.

4.2. The Contribution of Universities to SDGs

Using the data provided by Times Higher Education [18], we have analyzed which SDGs receive more interest or are more relevant for universities and are therefore the goals with the highest scores for the universities included in the sample.

Table 3 shows the number of universities ranked for each SDG and the number of universities for which each goal is ranked in positions 1 to 4 within their own set of SDG values. That is, we calculate the number of universities reporting on each SDG and the number of universities for which a specific SDG is among their four most important SDGs.

The SDG which has received the greatest interest, considering the number of entities that have submitted information about it, is SGD17 (Partnerships), given that most universities (26 out of 32) consider that this goal deserves special attention. This is followed by SDGs 4-Quality Education and 5-Gender Equality, with 27 and 26 universities submitting information about these, respectively, followed by SDG 3-Good Health and Well-being, reported by 23 universities. 13 universities include SDG 3 among their top four goals.

It is worth noting that SDG2, SDG14 and SDG15 are the least reported, given that more than half of the universities under study have not provided information on them. It should also be mentioned that SGD1 and SGD15 are never considered within the group of the highest scored goals. More specifically, although not shown in the table, SDG14 usually receives the lowest scores among those universities reporting on it, followed by SDG2, SDG1, SDG15 and SDG6, in that order.

These results suggest that SDGs 1, 2, 6, 14 and 15 are the most difficult to achieve or even to implement active strategies for, whereas SDGs 3, 4, 5 and 17 offer a wider range of opportunities for action.

Table 3. Sustainable Development Goals (SDGs) with the highest contributions from universities.

	Number of Entities Ranked	Number of Entities with the SDG in First Position	N. of Entities with the SDG in Second Position	N. of Entities with the SDG in Third Position	N. of Entities with the SDG in Fourth Position	N. of Universities That Rank the SDG in the First Four Positions
SDG 1. No Poverty	14	0	0	0	0	0
SDG2. Zero Hunger	13	0	0	2	0	2
SDG 3. Good Health and Well-being	23	2	5	4	2	13
SDG 4. Quality Education	27	4	5	4	3	16
SDG 5. Gender Equality	26	1	3	5	6	15
SDG 6. Clean Water and Sanitation	14	0	0	0	1	1
SDG 7. Affordable and Clean Energy	15	0	2	1	4	7
SDG 8. Decent Work and Economic Growth	19	1	3	3	2	9

	Number of Entities Ranked	Number of Entities with the SDG in First Position	N. of Entities with the SDG in Second Position	N. of Entities with the SDG in Third Position	N. of Entities with the SDG in Fourth Position	N. of Universities That Rank the SDG in the First Four Positions
SDG 9. Industry, Innovation and Infrastructure	20	2	1	1	1	5
SDG 10. Reduced Inequality	21	1	2	3	0	6
SDG 11. Sustainable Cities and Communities	19	1	1	0	6	8
SDG 12. Responsible Consump. and Production	16	1	1	0	0	2
SDG 13. Climate Action	17	1	2	0	1	4
SDG 14. Life Below Water	12	0	1	0	1	2
SDG 15. Life on Land	13	0	0	0	0	0
SDG 16. Peace and Justice Strong Institutions	21	5	1	3	3	12
SDG 17. Partnerships to achieve the Goal	32	13	5	6	2	26

4.3. Regression Analysis

Table 4 contains the results of the joint estimation described in Equation (1). Capital transfers from the regional government over the total of capital expenditures is the most significant driver (at the 1% significance level) for the overall contribution of universities to SDGs. The presence on the internet variable as well as the internalization rate are both significant at the 10% level. The lack of significance of the revenues per student variable suggests that delivering on the SDGs is a challenge irrespective of the universities' current income levels. The R-squared shows that the variables explain only a low percentage of the overall performance of the universities in terms of achieving SDGs, and therefore, as expected, there may be many other factors influencing this.

Table 4. Regression model for the Overall Score in the Contribution to SDGs.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	68.3118	4.6822	14.5896	0.0000
Presence on the internet	−0.0022	0.0012	−1.8730	0.0744
Internationalization rate	4.3661	2.4290	1.7974	0.0860
Resid. Revenues per student	0.0004	0.0007	0.7182	0.4801
Capital transfers research and infrast.	6.7188	1.6303	4.1211	0.0004
R-squared 0.252407			Ad. R-squared	0.116481

The analysis shows that the capital transfers received make a positive contribution to SDGs. As explained in Section 3, universities in Spain are financially dependent on the regional governments, who have the responsibility for higher education. Their contribution is differentiated between resources for current expenditures and capital transfers for

infrastructure and research. Our results indicate that the percentage of capital transfers from the regional government over the total capital expenditures of a university can clearly be a driving factor for sustainable growth. This confirms the acceptance of hypothesis H_4: Universities that receive more capital transfers for research and infrastructure from the regional government make a greater contribution to SDGs. These results show the relevance of the regional governments for enhancing the role of universities in achieving the SDGs. In Spain, nowadays, as in any other country, regional governments face increasingly complex economic, social and environmental challenges, and the ambition of achieving progress on the 17 Sustainable Development Goals implies a need for prioritization and negotiation involving all areas of the business sector and civil society, including universities. The key role of technology, knowledge and innovation in contributing to smart, sustainable and inclusive growth makes regional governments deal with universities because of the opportunities they provide for interaction between businesses and civil society.

The internationalization rate has also proved to be a driving factor for delivering on the SDGs on the part of universities, confirming hypothesis H_2: Universities with a higher level of internationalization make a greater contribution to SDGs. These results indicate the positive effect of international attractiveness in respect of the performance in SDGs. Universities can contribute to a global vision of sustainability through research, teaching, and acting as exemplary models through their current activities. In fact, the Talloires Declaration for sustainability, created for and by presidents of institutions of higher learning, suggests that universities must provide the leadership and support to mobilize internal and external resources so that these institutions respond to the sustainability challenge, working to promote a worldwide university effort toward a sustainable future. Scott [38] suggests that, as nation-states become increasingly interdependent, a new university mission arises: internationalization. Internationalization naturally leads to a focus on global sustainability. The professional, social and cultural nature of the benefits of international programs can have a strong effect on sustainable development [39]. Furthermore, internationalization requires some structural and cultural changes as well as external partnerships that may support universities on the road to achieving sustainability and SGD delivery [17,22].

Another factor that positively influences the performance of universities in the field of SDGs is the presence of the university on the internet. The significance of this indicator, which confirms hypothesis H_1, is explained by the importance of the use of the internet for building trust as well as encouraging transparency and better international relations. A rich presence on the internet is expected to disclose more information to stakeholders and thus favor trust and transparency [36]. Some studies (Peker et al. [44], for example) show a strong positive correlation between the usability of university websites and their internet presence, increasing the success and satisfaction of the users of the websites of universities which have strong web presences, and therefore improving the quality of education. Universities employ the internet to communicate to target audiences whose feelings of success and satisfaction contribute to generating trust in an era of post-truth and fake news. This use of the internet also helps to assess to what extent universities contribute to the public good. The efforts made to exercise accountability and enhance trust and transparency serve to improve the image of the institution and represent a driver for its commitment to sustainability, given that most universities are signatories of the 2030 Sustainable Development Goals.

Finally, the results demonstrate that the total financial resources available to the university are not relevant to its contribution to SDGs, which means that hypothesis H_3 should be rejected. This suggests that universities can implement policies that support their commitment to SDGs regardless of the revenues per student available.

Having identified some of the main drivers of the universities' contribution to SDGs as a whole, it is also interesting to analyze to what extent these drivers affect their commitment to those individual SDGs that have proved to be of greater interest from the point of view of university strategies for sustainability. Table 5 shows the results of the individual univariate

regressions described in Equation (2). The table reports the β_j estimate for each driver contributing to each SDG under analysis:

Table 5. Regression models for the Contribution to specific SDGs (significance level in first parenthesis) (R-squared in second parenthesis (Given that the estimator is designed to accommodate heteroscedasticity and the fact that we do not use the model to forecast, the *p*-value (significance level) is more valuable in our analysis than the R-squared)).

SDGs	*Presence on the Internet*	*Internationalization Rate*	*Revenues per Student*	*Capital Transfers Research and Infrast.*
SDG3	−0.0058 (0.3025) (0.0400)	11.7527 (0.0144) (0.0874)	−0.0014 (0.0831) (0.1299)	4.8487 (0.0397) (0.0367)
SDG4	−0.0015 (0.6555) (0.0123)	5.4270 (0.4787) (0.0174)	0.0009 (0.0727) (0.0914)	9.3383 (0.0066) (0.1559)
SDG5	8.42×10^{-5} (0.9266) (0.0001)	4.0228 (0.1341) (0.0198)	0.0003 (0.4890) (0.0233)	1.3585 (0.2639) (0.0068)
SDG17	−0.0085 (0.0001) (0.2697)	7.0299 (0.0411) (0.0500)	0.0001 (0.7946) (0.0016)	7.2771 (0.0080) (0.0585)

As can be seen in Table 5, the ratio between capital transfers from the regional government over capital expenditure is a clearly significant variable for SDG3, SDG4 and SDG17, demonstrating its key role in the commitment of universities to sustainability. This confirms that regional governments have an important responsibility for providing universities with enough resources for research and infrastructure so that they can carry out research and innovation activities which help them to contribute to the SDGs.

The internationalization rate plays an important role in promoting SDG3 and SDG17, and also seems to help achieve good scores in SDG 5, although it is not statistically significant at the usual significance levels. The international attraction of foreign students is not statistically significant for SDG 4, Quality Education, which shows that universities are aware of the relevance of this SDG regardless of their level of internationalization. The internet presence turns out to be determinant for achieving SDG17, which is consistent with the fact that the internet can be used to enhance cooperation and partnerships with several benefits for the SDGs.

The influence of total revenues per student is not so clear. Although this factor is significant for SDG3 and SDG4 at the 10% significance level, in the first case it goes against the goal, suggesting that higher revenues per student are not at all useful for achieving progress in SDG3, whereas they help to deliver SDG4. As a consequence, those universities with more financial resources, investing them in an effective way, may achieve a higher quality of education and therefore a higher performance in SDG4.

4.4. Gephi Analysis

Gephi analysis has been used to investigate to what extent there are common patterns for the SDGs and their driving factors in Spanish public universities. Figure 1 shows the results of the Gephi analysis of the significant factors that influence the contribution of universities to the SDGs (WP, IntR and CapTransfers) with a modularity of 0.230, in which three communities can be identified (All universities are related to each other, but only 11% of the closest relations (small distances among them) are shown, for clarity).

G1: A group of universities with the highest and medium overall contribution to the SDGs and the highest scores in the level of internationalization and the presence on the internet. Half of them also have the highest scores in resources for research and infrastructure. This group basically includes those universities with a high contribution to the SDGs and best scores in at least two out of the three drivers influencing the delivery of the SDGs. Consequently, these universities also show high scores in SDG3, SDG4 and SDG17 (and three of them also report the three highest scores in SDG5), given that the presence on the internet, the ratio of international attraction and the regional capital transfers for research and infrastructure are all significant drivers in this group. In fact, this group includes two universities (Jaume I and La Laguna) which, in spite of not having high positions in the overall ranking of the SDGs, perform very well in two specific drivers:

presence on the internet and internationalization. This group includes 12 public institutions (Autónoma de Barcelona, Málaga, Jaén, Salamanca, Valencia, Polytechnic of Valencia, Barcelona, Jaume I Castellón, Miguel Hernández, Pompeu Fabra, Coruña and La Laguna). This is the group containing the top universities in our sample for the purpose of this paper.
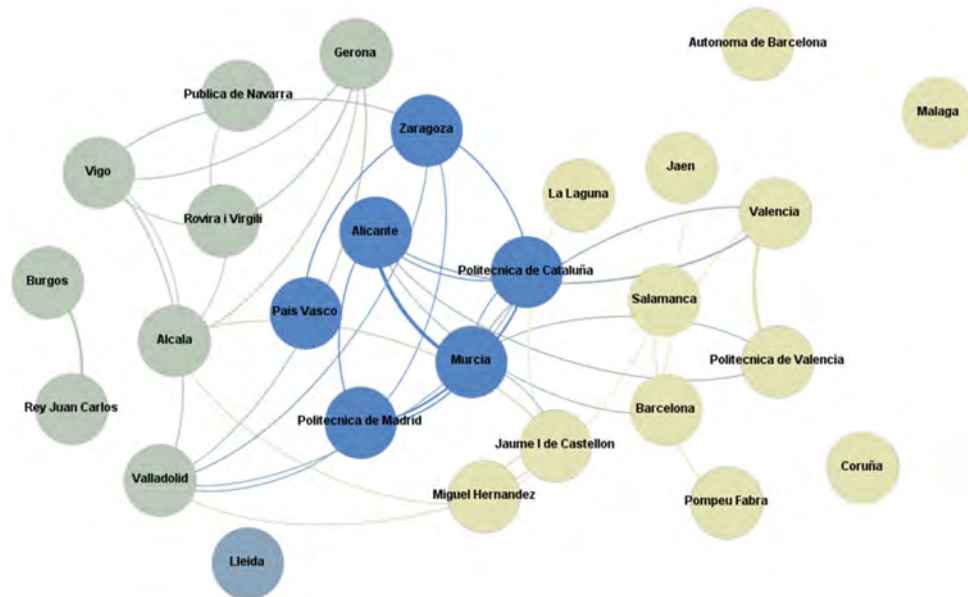
Figure 1. Clusters of universities according to the significant driving factors for SDGs.

As a real practical example that can serve to illustrate the relevance of the aforementioned drivers in the achievement of the SDGs, we can cite the case of universities such as Barcelona, Autónoma de Barcelona, Pompeu Fabra, Valencia and Politécnica de Cataluña. All of these universities belong to our sample and have very high levels of internationalization and internet presence (the first four are included in G1). They are among the few universities participating in the recent creation of the European university campuses initiative. These consortiums of universities aim to increase the quality and international competitiveness of the European Higher Education system, promoting digital transformation and enabling innovations in education and research. Digitally-enabled learning, virtual mobility, collaboration and networking for students and staff, policies for inclusion and diversity, the idea of "Open Science" and, of course, sustainability, are at the core of these international alliances intended to respond to the challenges of the 21st century.

From a different perspective, we can also mention the case of the University of Málaga, also belonging to G1 and showing high values of the internationalization ratio and very high values of capital transfers for research and infrastructure from the regional government. Through the so-called Smart Campus, this university offers funds for research projects dealing with environmental sustainability and involving not only researchers but also students, university staff and even companies. Another university belonging to G1 with high values of the same drivers is the University of Jaén. Since 2016, this university has been promoting an ideas contest within its program "Hack the City", which aims to launch innovative ideas on sustainable traffic. The ideas are rewarded with the loan of electric bicycles. Both projects have been recognized by the Spanish Network for Sustainable Development (REDS) as inspiring projects in relation to the SDGs of the 2030 Agenda within the educational field [45].

Another example of good practices related to the SDGs is the University of Coruña (UdC), which also shows high values of the internationalization ratio and resources for research and infrastructure from the regional government. It is also positioned in G1

and has the highest score in quality education (SDG4). This university has developed a cooperation project in Mozambique, Kaya Clínica, setting up an office in which architecture students from the UdC provide technical advice to local inhabitants, so that they can achieve the health and well-being conditions described in article 25 of the Universal Declaration of Human Rights. This service-learning experience in basic habitability has been recognized by the Observatory of University Cooperation for Development, OCUD [46].

G2: A group of universities with either medium or low levels of contribution to the SDGS within our sample. They occupy very good positions on the internet presence indicator and also have high values in the total revenues per student ratio (although the latter is not one of the significant drivers included in the Gephi analysis). All of them have medium values for the ratio of financial resources for research and infrastructure from the regional government to cover total capital expenditure, and most have medium values for the internationalization ratio. Consequently, they do not generally perform very well in SDG4 and even SDG5, but they perform reasonably well in SDG3 and SDG17. This group includes seven public institutions (Zaragoza, Murcia, Alicante, Polytechnic of Cataluña, País Vasco, Polytechnic of Madrid, Lleida). This group can be identified in general terms as those universities with lower performance in SDG4 in our sample.

G3: A group of universities also with low and medium levels of overall contribution to the SDGS but characterized by underperformance in SDG3 in our sample. The group includes two out of the three worst values of the presence on the internet indicator in our sample, three out of the four lowest values of the internationalization ratio, and medium values for the ratio of funds for research and infrastructure. None of these universities has a high value in SDG3. In fact, half of them exhibit some of the lowest values for this goal. Three universities in this group (Rovira I Virgili, Gerona and Alcalá), although performing well enough in SDG4, show a lack of especially good values in their driving factors, and this places them in this third group. It is also worth mentioning that the lowest value of SDG17 is included in G3. This group includes eight public institutions (Gerona, Public of Navarra, Vigo, Rovira i Virgili, Alcalá, Valladolid, Burgos, Rey Juan Carlos). To sum up, this group is characterized by having a lower performance in SDG3.

It is also interesting to note that the scores in SDG5 or SDG17 do not contribute to any clear pattern for the communities identified as G2 and G3, given that the highest values are included in the group of universities identified as G1.

5. Conclusions

Sustainability has become an important issue around the world and universities have included it in their governance and management, in its three dimensions—social, environmental and economic—defining several activities, policies and proposals aiming at contributing to a more sustainable world. Since the definition of the SDGs by the United Nations, they have in many cases been considered as guidelines for defining the actions and strategies of universities in the way forward toward sustainability. Both the literature and several institutional declarations have recognized the role of universities in facing this challenge and achieving a better society and economy.

This paper contributes to the literature about sustainability in higher education institutions, with a focus on the development of SDGs in universities, aiming to analyze which SDGs have received more attention by universities and what internal factors can act as drivers for their contribution. Accordingly, the contribution is twofold. Firstly, the paper shows the state of the art of SDGs in Spanish universities, which has not been evidenced in the prior literature and can be interesting in order to encourage universities to improve their role and to stimulate further involvement in these objectives. Secondly, the paper tries to shed light on what factors can have an impact on the performance of universities in this area.

The ranking developed by Times Higher Education [18] shows that Spanish universities are considering the 17 SDGs in their actions, with SDG3, SDG4, SDG5 and SDG17 being those which have received the most attention. That is to say, universities are contributing

to ensure healthy lives and promote well-being, inclusive and equitable quality education with learning opportunities for all, gender equality and women's empowerment, as well as participation in global partnerships for sustainable development. The contribution of each university to these goals, both from an overall and an individual SDG perspective, is the result of specific actions, the commitment of each actor and other contextual factors. Taking this into account, this paper has defined some internal factors that can influence the contribution of universities or act as drivers for performance in SDGs.

In particular, the paper reveals that there are three factors which have a positive impact on university scores: capital transfers for infrastructure and research received from the regional governments, the presence of universities on the internet and their internationalization rate. In contrast, the revenue per student does not appear to be significant, indicating that the contribution of universities to the SDGs is not necessarily linked to the total volume of funds.

In Spain, universities are financed by the regional governments, which have responsibility for higher education. The financial resources transferred by regional governments to universities are twofold: financial resources for current expenditures and financial resources for research and infrastructure, that is, capital expenditures. The results show that those universities which receive higher financing from the regional governments for the latter are more committed to achieving the SDGs. On the one hand, they are more inclined to provide some return to society and citizens in exchange for the support they receive from the regional government; on the other hand, as they have a greater chance of receiving recurrent financing, they have more opportunities to improve innovation and achieve successful research results.

Another factor that has an effect on the scores of universities for SDG performance is the internationalization rate. Universities with a higher rate of incoming over outgoing students make a greater contribution to the SDGs. Internationalization requires adapting the structures and the culture of the university to a more open world, as well as the development of partnerships and agreements with foreign universities, and this can have positive effects on sustainability. Universities that are more attractive to foreign students are more likely to contribute to SDG development from an overall perspective, with a better performance for SDG3 and SDG 17 in particular, due to the global partnerships achieved through the internationalization of the university.

The presence of universities on the internet is also a positive driver for SDGs in universities, as they may use the web for promoting these goals, as well as for accountability purposes and building trust among stakeholders. E-learning is another option that universities can use to contribute to SDGs from a broad perspective, given that it allows for a more inclusive and equitable education, or even to prepare civil society to have the skills for achieving the goals. This driver basically influences SDG17.

The Gephi analysis identifies some common patterns found among the universities in terms of the internal factors that influence their contribution to the SDGS. Three general clusters of universities are revealed. The first group comprises universities that have a high commitment to the SDGs, particularly SDG3, SDG4, and SDG17, and which have higher levels of internationalization and presence on the internet. In many cases, they receive more resources from regional governments for research and infrastructure. The second group is made up of universities with medium to low scores in SDGs overall. Despite having a strong presence on the internet, they exhibit less internationalization and receive fewer financial resources from the regional government, leading to a lower performance in SDG4 in our sample. Finally, the third group consists of universities which also have medium and low scores in global performance and are mainly characterized by a low level of internationalization and lower presence on the internet, leading to a lower performance in SDG3.

These results have important implications for universities, which may be motivated to increase their presence on the internet or their efforts at internationalization, but also for regional governments, which should be aware of the relevance of their capital transfers to

universities not only in terms of innovation and research but also for their importance in enabling the universities to play a greater role in society as a whole, including achieving the SDGs and therefore providing a more sustainable, fair and inclusive environment for all. The contribution and results of the paper should be of interest to managers and other stakeholders of universities, as well as to politicians and other policy makers, who can be encouraged to design policies that support the role of universities in achieving the SDGs.

This paper has some potential limitations. Firstly, the design and operation of rankings can have some implicit shortcomings, which may be reflected in the analyses using their data. However, rankings at least provide the opportunity to motivate institutions to improve their image and, therefore, in this case, their contribution to the SDGs. We therefore consider the results to be of interest to, and even an inspiration for, universities, encouraging awareness of the relevance of policies that can contribute to a more social, fair and equal world. However, very importantly, it should be noted that these results may only be possible for those universities that have been able to provide the data and information necessary to participate in the Times Higher Education World University ranking. Their consideration in this paper is relative to the set of universities under the same circumstances, and it is not comparable with those institutions for which there is no information on the matter. Secondly, the selection of the drivers has been based on the literature review but also conditioned by the availability of the data, and it would be convenient to extend the study to other factors in the future. Finally, the analysis considers only Spanish public universities, due to limitations in the availability of the data. It would be interesting to complete the analysis with a larger sample, including, for example, universities from different countries.

Author Contributions: All authors contributed equally to this work. All authors have read and agreed to the published version of the manuscript.

Conflicts of Interest: The authors declare no conflict of interest.

References

1. United Nations General Assembly. Report of the World Commission on Environment and Development: Our Common Future. 1987. Available online: https://sustainabledevelopment.un.org/content/documents/5987our-common-future.pdf (accessed on 18 December 2020).
2. Sartori, S.; Latrônico, F.; Campos, L.M. Sustainability and sustainable development: A taxonomy in the field of literature. *Ambiente Soc.* **2014**, *17*. Available online: https://www.scielo.br/scielo.php?pid=S1414-753X2014000100002&script=sci_arttext&tlng=en (accessed on 18 December 2020).
3. Axelsson, R.; Angelstam, P.; Elbakidze, M.; Stryamets, N.; Johansson, K.E. Sustainable development and sustainability: Landscape approach as a practical interpretation of principles and implementation concepts. *J. Lands. Ecol.* **2011**, *4*, 5–30. [CrossRef]
4. Olawumi, T.O.; Chan, D.W. A scientometric review of global research on sustainability and sustainable development. *J. Clean. Prod.* **2018**, *183*, 231–250. [CrossRef]
5. Ceulemans, K.; Molderez, I.; Van Liedekerke, L. Sustainability reporting in higher education: A comprehensive review of the recent literature and paths for further research. *J. Clean. Prod.* **2015**, *106*, 127–143. [CrossRef]
6. Dumay, J. A critical reflection on the future of intellectual capital: From reporting to disclosure. *J. Intellect. Cap.* **2016**, *17*, 168–184. [CrossRef]
7. Lozano, R.; Ceulemans, K.; Alonso-Almeida, M.; Huisingh, D.; Lozano, F.J.; Waas, T.; Lambrechts, W.; Lukman, R.; Hugé, J. A review of commitment and implementation of sustainable development in higher education: Results from a worldwide survey. *J. Clean. Prod.* **2015**, *108*, 1–18. [CrossRef]
8. Secundo, G.; Dumay, J.; Schiuma, G.; Passiante, G. Managing intellectual capital through a collective intelligence approach: An integrated framework for universities. *J. Intellect. Cap.* **2016**, *17*, 298–319. [CrossRef]
9. Mori Junior, R.; Fien, J.; Horne, R. Implementing the UN SDGs in universities: Challenges, opportunities, and lessons learned. *Sustain. J. Record* **2019**, *12*, 129–133. [CrossRef]
10. United Nations General Assembly. Transforming our World: The 2030 Agenda for Sustainable Development. Division for Sustainable Development Goals. 2015. Available online: https://sdgs.un.org/2030agenda (accessed on 18 December 2020).

11. Vilalta, J.M.; Betts, A.; Gómez, V. Higher Education's Role in the 2030 Agenda: The Why and How of GUNi's Commitment to the SDGs. Sustainable Development Goals: Actors and Implementation. In *Sustainable Development Goals: Actors and Implementation: A Report from the International Conference*; Vilalta, J.M., Betts, A., Gómez, V., Eds.; GUNI: Barcelona, Spain, 2018; pp. 10–14. Available online: http://www.acup.cat/sites/default/files/2018-06/Higher%20Education%27s%20Role.pdf (accessed on 15 September 2020).

12. Rosen, M.A. Do Universities Contribute to Sustainable Development? *Eur. J. Sustain. Dev. Res.* **2019**, *4*, em0112. [CrossRef]

13. Kestin, T.; Van den Belt, M.; Denby, L.; Ross, K.E.; Thwaites, J.; Hawkes, M. Getting Started with the SDGs in Universities: A Guide for Universities, Higher Education Institutions, and the Academic Sector. 2017. Available online: https://resources.unsdsn.org/getting-started-with-the-sdgs-in-universities (accessed on 18 December 2020).

14. Perović, L.M.; Kosor, M.M. The Efficiency of Universities in Achieving Sustainable Development Goals. *Amfiteatru Econ.* **2020**, *22*, 516–532.

15. Shiel, C.; Smith, N.; Cantarello, E. Aligning campus strategy with the SDGs: An institutional case study. In *Universities as Living Labs for Sustainable Development*; Leal Filho, W., Ed.; Springer: Cham, Switzerland, 2020; pp. 11–27.

16. Kioupi, V.; Voulvoulis, N. Sustainable Development Goals (SDGs): Assessing the Contribution of Higher Education Programmes. *Sustainability* **2020**, *12*, 6701. [CrossRef]

17. Körfgen, A.; Glatz, I.; Maier, S.; Scherz, M.; Kreiner, H.; Passer, A.; Allerberger, F.; Kromp-Kolb, H.; Stötter, J. Austrian Universities and the Sustainable Development Goals. In *IOP Conference Series: Earth and Environmental Science, Proceedings of the Sustainable Built Environment D-A-CH Conference 2019 (SBE19), Graz, Austria, 11–14 September 2019*; IOP Publishing: Bristol, UK, 2019; Volume 323, p. 012156.

18. Times Higher Education. Impact Rankings 2020. Available online: https://www.timeshighereducation.com/impactrankings#!/page/0/length/25/sort_by/rank/sort_order/asc/cols/undefined (accessed on 15 September 2020).

19. Perez-Esparrells, C.; Orduna-Malea, E. Do the technical universities exhibit distinct behaviour in global university rankings? A Times Higher Education (THE) case study. *J. Eng. Technol. Manag.* **2018**, *48*, 97–108. [CrossRef]

20. BBVA Foundation and the IVIE. 2020. Available online: https://www.fbbva.es/wp-content/uploads/2020/06/Informe-U-Ranking-FBBVA-Ivie-2020.pdf (accessed on 15 September 2020).

21. Ministry of Education (SIIU). Datos y Cifras del Sistema Universitario Español. Available online: http://www.educacionyfp.gob.es/servicios-al-ciudadano/estadisticas/universitaria/datos-cifras.html (accessed on 15 September 2020).

22. Purcell, W.M.; Henriksen, H.; Spengler, J.D. Universities as the engine of transformational sustainability toward delivering the sustainable development goals. *Int. J. Sustain. High. Educ.* **2019**, *20*, 1343–1357. [CrossRef]

23. Sustainable Development Solutions Network (SDSN). *Accelerating Education for the SDGs in Universities: A Guide for Universities, Colleges and Tertiary and Higher Education Institutions*; Sustainable Development Solutions Network: New York, NY, USA, 2020; Available online: https://resources.unsdsn.org/accelerating-education-for-the-sdgs-in-universities-a-guide-for-universities-colleges-and-tertiary-and-higher-education-institutions (accessed on 25 October 2020).

24. Leal Filho, W.; Shiel, C.; Paço, A.; Mifsud, M.; Ávila, L.V.; Brandli, L.L.; Molthan-Hill, P.; Pace, P.; Azeiteiro, U.M.; Ruiz-Vargas, V.; et al. Sustainable Development Goals and sustainability teaching at universities: Falling behind or getting ahead of the pack? *J. Clean. Prod.* **2019**, *232*, 285–294. [CrossRef]

25. Paletta, A.; Bonoli, A. Governing the university in the perspective of the United Nations 2030 Agenda. *Int. J. Sustain. High. Educ.* **2019**, *20*, 500–514. [CrossRef]

26. Son-Turan, S.; Lambrechts, W. Sustainability disclosure in higher education: A comparative analysis of reports and websites of public and private universities in Turkey. *Int. J. Sustain. High. Educ.* **2019**, *20*, 1143–1170. [CrossRef]

27. Klußmann, C.; Sassen, R.; Gansel, E. Structural key factors of participatory sustainability reporting for universities. *Int. J. Sustain. High. Educ.* **2019**, *20*, 1080–1098. [CrossRef]

28. Blasco, N.; Brusca, I.; Labrador, M. Assessing sustainability and its performance implications: An empirical analysis in Spanish public universities. *Sustainability* **2019**, *11*, 5302. [CrossRef]

29. UIGreenMetric. Available online: http://greenmetric.ui.ac.id/ (accessed on 15 September 2020).

30. Ragazzi, M.; Ghidini, F. Environmental sustainability of universities: Critical analysis of a green ranking. *Energy Procedia* **2017**, *119*, 111–120. [CrossRef]

31. Perchinunno, P.; Cazzolle, M. A clustering approach for classifying universities in a world sustainability ranking. *Environ. Impact Assess. Rev.* **2020**, *85*, 106471. [CrossRef]

32. Mori Junior, R.; Wyatt, R.; Nuttall, A. *ASX 20 Disclosures on the Sustainable Development Goals: Commitment, Structure, Action and Measurement*; Think Impact: Melbourne, Australia, 2017.

33. James, M.; Card, K. Factors contributing to institutions achieving environmental sustainability. *Int. J. Sustain. High. Educ.* **2012**, *13*, 166–176. [CrossRef]

34. Kang, L.; Xu, L. Creating sustainable universities: Organizational pathways of transformation. *Eur. J. Sustain. Dev.* **2018**, *7*, 339. [CrossRef]

35. Gallego-Álvarez, I.; Rodríguez-Domínguez, L.; García-Sánchez, I.M. Information disclosed online by Spanish universities: Content and explanatory factors. *Online Inf. Rev.* **2011**, *35*, 360–385. [CrossRef]

36. Smyrnova-Trybulska, E.; Morze, N.; Kuzminska, O. Academic Information Transparency: From Teachers'e-Portfolio to Upgrading the Rankings of Universities. In Proceedings of the The DIVAI 201812th International Scientific Conference on Distance Learning in Applied Informatics, Štúrovo, Slovakia, 2–4 May 2018; Turčáni, M., Balogh, Z., Munk, M., Kapusta, J., Benko, L., Eds.; Wolters Kluber: Praha, Czech Republic, 2018; pp. 347–356.

37. Melgarejo, L.T.; Del Río, C.Z.; Vilchez, E.Q. Exploring the Relationship Between Web Presence and Web Usability in Peruvian Universities. In *Design, User Experience, and Usability: Practice and Case Studies, HCII 2019, Proceedings of the International Conference on Human-Computer Interaction, Orlando, FL, USA, 26–28 July 2019*; Marcus, A., Wang, W., Eds.; Springer: Cham, Switzerland, 2019; Volume 11586, pp. 596–615.

38. Scott, J. The Mission of the University: Medieval to Postmodern Transformations. *J. High. Educ.* **2006**, *77*, 1–39. [CrossRef]

39. Wright, T.S.A. Sustainability, internationalization, and higher education. *New Dir. Teach. Learn.* **2009**, *118*, 105–115. [CrossRef]

40. Cybermetrics Lab. Ranking Web of Universities. Available online: http://www.webometrics.info/en (accessed on 15 September 2020).

41. Bastian, M.; Heymann, S.; Jacomy, M. Gephi: An open source software for exploring and manipulating networks. *Icwsm* **2009**, *8*, 361–362.

42. Newman, M.E.J. Analysis of weighted networks. *Phys. Rev. E* **2004**, *70 Pt 2*, 056131. [CrossRef]

43. Blondel, V.D.; Guillaume, J.; Lambiotte, R.; Lefebvre, E. Fast unfolding of communities in large networks. *J. Stat. Mech. Theory Exp.* **2008**, *10*, P10008. [CrossRef]

44. Peker, S.; Kucukozer-Cavdar, S.; Cagiltay, K. Exploring the Relationship between Web Presence and Web Usability for Universities: A Case Study from Turkey. *Program Electron. Libr. Inf. Syst.* **2016**, *50*, 157–174. [CrossRef]

45. Miñano, R.; García-Haro, M. *Implementando la Agenda 2030 en la Universidad: Casos Inspiradores*; Red Española Para el Desarrollo Sostenible REDS: Madrid, Spain, 2020.

46. Conferencia de Rectores de las Universidades Españolas. CRUE. Observatorio de la Cooperación Universitaria al Desarrollo. OCUD. Recursos Universidad 2030. Experiencias. CRUE. Available online: http://www.ocud.es/agenda2030/es/recursos-universidad-2030/experiencias.htm (accessed on 12 December 2020).