COMMUNICATING SUSTAINABILITY: AN ANALYSIS OF SUSTAINABILITY WEBSITES AND REPORTS OF ITALIAN STATE UNIVERSITIES

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Abstract
Nowadays, universities represent laboratories through which to develop and transmit good practices and knowledge necessary to speed up the transition to sustainable development. The approach to sustainability, which finds expression in the missions (teaching, research, and third mission) pursued and in the governance models adopted, guarantees universities the possibility of assuming an elective role in spreading sustainable logic. This orientation toward sustainability paradigms within the academic context has contextually prompted universities to equip themselves with accountability tools to respond to the resulting demand for stakeholder information concerning these issues. The purpose of this paper is to assess how Italian state universities report on sustainability through appropriate reporting documents and, at the same time, communicate it through their websites. In particular, the authors compare how and to what extent sustainability is communicated through institutional websites versus more traditional sustainability reports. The study found that 51 percent of universities in the sample have had at least one sustainability reporting document in place since 2015. However, the analysis shows that alongside such accounting practices, most universities (68 percent) use a dedicated sustainability webpage as an additional tool for disseminating sustainable approaches. The results of this study may encourage Italian universities to identify their status regarding the sustainable accountability processes implemented, enabling them to have a more conscious and responsible orientation concerning the strategies to be undertaken with a view to sustainability communication.

Introduction

Over the past thirty years, many universities have formally committed themselves to the path of sustainable development, integrating this paradigm into their educational, research, and third-mission activities (De Filippo et al., 2020; Lozano et al., 2013), as well as in the strategies to be implemented and the actions to be put in place (RUS-GBS, 2023). The assumption of an active role in promoting sustainable development has also focused on how these institutions communicate the sustainability initiatives undertaken internally. In this regard, several universities, both Italian and foreign, have introduced social reporting elements in recent years, resulting in the adoption of documents such as social reports, environmental reports, and, more recently, with increasing popularity, sustainability reports and integrated reports (Fiorani & Di Gerio, 2022). At the same time, however, numerous studies (Amey et al., 2020; Dade & Hassenzahl, 2013; Delmas & Burbano, 2011) have also highlighted how the Internet has become an essential tool for communicating sustainability and, above all, for reaching a wide range of stakeholders. Indeed, universities are increasingly using websites to share information and engage the university community regarding sustainability commitments undertaken (Ferrer-Balas et al., 2008; Bortree, 2011). Furthermore, websites have proven successful tools for content usability, information delivery, and high communication impact (Lee & Kozar, 2012).

However, to a large extent, how universities communicate sustainability online remains an unexplored research area (Ott et al., 2016). For these reasons, the contribution proposes to analyze the state of the art of sustainability reporting in Italian universities, both in its traditional form and concerning the more innovative forms of web-based communication. The analysis describes the sustainability reporting practices developed by Italian public universities over the last eight years, exploring the types of documents published and the main characteristics of sustainability communication on the web. This allowed for the clustering of Italian state academic entities through the representation of communication and reporting practices adopted, providing an indicator related to sustainability disclosure.

This paper is structured as follows: The second section reviews the literature on sustainability reporting and web-based reporting in the academic context. Section three illustrates the reference sample, the benchmarking process, and the methodological approach. Section four describes the results achieved. Finally, section five presents the conclusions, followed by a discussion of the limitations of the research and possible future studies.

Literature review

Sustainability reporting in universities

Over the last decade, the corporate world has shown an increasing sensitivity in implementing sustainability reporting processes in an attempt both to respond to

stakeholder demands and to legitimize their business strategies (Alonso-Almeida et al., 2012; Lozano, 2013; Lozano & Huisingh, 2011), as well as to measure their performance achieved in the economic, social and environmental spheres (Sepasi et al., 2018). Thus, the awareness has been affirmed that every organizational responsibility corresponds to a series of stakeholder rights, among which emerges the right to information that must be provided by the organization itself, which is called upon to demonstrate transparency about each expectation (Del Sordo et al., 2016). It is in such a scenario that some universities have started to report their sustainable performance to satisfy stakeholder demand and legitimize themselves in society (Del Sordo et al., 2016; Larrán Jorge et al., 2017; Larrán Jorge et al., 2019; Lubinger et al., 2019; Moggi, 2016; Rahman et al., 2019), while others have felt an institutional pressure to communicate more information related to social responsibility and sustainability (Larrán Jorge et al., 2017). Thus, academia has faced a double challenge stemming from its predominantly public nature and the absence of a market: the increased difficulty of measuring its performance and the accountability of administrators. Moreover, in the last three decades, the university system has also been involved in the process of reforms inspired by New Public Management (Del Sordo et al., 2016; Vargiu, 2015) that have replaced the citizen with the customer/taxpayer, giving him the right to an accountable service, which arose upon payment of the same (Vargiu, 2015). This has introduced a performance-focused culture that requires a measurement and communication tool, such as social reporting, which effectively becomes a valuable means of comparing the different sustainable activities implemented by the various universities, thus favoring the selection of the best ones (Alonso-Almeida et al., 2015). Universities that introduce social reporting logics, therefore, want to improve economic and financial reporting and communicate, both externally and internally, the commitments made and the progress achieved, as well as to develop a tool for comparison and analysis between the various academic realities (Alonso-Almeida et al., 2015), making the results achieved more transparent and comprehensible to all (Moggi, 2016).

The adoption of sustainability reporting documents has enabled the development of various assessment tools concerning not only common sustainability properties, such as environment, energy, equality, and water and waste management, but also typical characteristics of universities, such as research, teaching, curriculum, and sustainability education (Lubinger et al., 2019). The various universities, therefore, can, to date, make optional use of a series of social reporting documents, including the social report (documents the social performance of the company), sustainability report (focuses on the impacts of activities concerning the environmental and social dimensions), environmental report (represents the company-environment relationship), or integrated report (which integrates the traditional economic report with information related to the three dimensions of economic, social and environmental sustainability) (Giancotti et al., 2022) and a set of reporting standards, which provide the outlines and instructions for optimal preparation of the aforementioned financial statements/ documents to make them comparable (Moggi, 2016) on a spatiotemporal level. We speak of voluntary procedures insofar as there is still no legislative obligation in the Italian legal system for drafting documents other than financial ones, nor for using specific drafting standards, which are therefore chosen autonomously (Rebecca, 2003). All this has made social reporting practices more complex, which, to date, are still to be considered at an early stage of dissemination. This situation has been aggravated by the need for an integrated

institutional framework to guide universities and harmonize different experiences (Fiorani & Di Gerio, 2022). Only in the last few years, and only in the Italian context, has a reporting standard for the university sector been formalized by RUS (Rete delle Università per lo Sviluppo Sostenibile – Network of Universities for Sustainable Development) and GBS (Gruppo Bilanci e Sostenibilità – Reporting and Sustainability Group) and aimed at guiding universities (state and non-state) in the drafting of sustainability reports.

Communicating sustainability using websites

The current literature has, however, recently highlighted how reporting in the traditional paper format is becoming less and less timely and less utilized by decision-makers and stakeholders, prompting the various institutions to use more innovative communication channels (Rodrìguez Bolívar et al., 2009), such as the Internet and websites. At present, new technologies concerning integrated communication systems and digital innovations can help universities adopt a proactive approach to sustainability disclosure (Nicolò et al., 2021), and indeed, in the last ten years, numerous universities have decided to implement forms of sustainability communication using their institutional websites (An et al., 2020). Among the advantages of these communication approaches, Meijer already stated in 2007 the superiority of the Internet and websites as a tool for disseminating information, as it allows stakeholders to form an opinion in a timelier manner (Dumay et al., 2017) about an organization's performance (Meijer, 2007). Other studies show how greater visibility on the Internet translates into more significant pressure on public sector entities, which, in response, tend to put more information on their sites to enhance legitimacy and simultaneously improve the diverse and growing information needs of users (Nicolò et al., 2021; Rodrìguez Bolívar et al., 2009; Rodrìguez Bolívar et al., 2013; Serrano-Cinca et al., 2019). Moreover, one of the unique features of websites lies in their ability to enable two-way dialogue (Scott & Jackson, 2002) to foster relationships between organizations and users (Yang & Huang, 2011) and encourage involvement (Chung, 2008) through dedicated sections where users can post their opinions. Since 'communication' and 'participation' are the fundamental principles for proper implementation of social reporting in the university context (Rodrìguez Bolívar et al., 2013), the internet is defined as the information superhighway (Rodriguez Bolívar et al., 2013) and this sense web reporting, intended as a form of online social communication, becomes the tool able to overcome the limitations of a paper-based reporting thanks to its increasing reach and its ability to connect simply the external environment of a university, as well as of any other organization, and the different stakeholders (Nicolò et al., 2021).

Orienting the research towards the academic context, Franz-Balsen et al. (2007, p. 438) found that "the internet has become an essential communication channel for more than 90 percent of all respondents, the university website being crucial". Several recent studies on students' information search behavior have shown an overwhelming preference for Internet-based searches over other channels (Connawayet et al., 2011; Karas & Green, 2007). Furthermore, a strand of studies has highlighted the importance for universities to communicate their commitment to sustainability effectively (Sharp, 2002), recognizing websites as a good and speedy source of reliable information on sustainability indicators (Amey et al., 2020; Dade & Hassenzahl, 2013; De Filippo et al., 2020; Ott et al., 2016).

Given the crucial role of communication in the progress of universities' sustainability, these institutions should focus on implementing effective communication strategies based on the web. This theoretical background should make us reflect that despite solid literature on sustainability reporting and web reporting in universities, current academic studies still need an integrated view of sustainability communication methods. This led to a desire to investigate how universities report on sustainability in the more traditional form and how they use the Internet to implement other forms of communication.

Methodology

The main objective of this study is to understand the general phenomenon of social reporting not only in its more traditional sense but also concerning the increasingly widespread use of the internet, which, to date, represents the primary tool for accessing university sustainability reporting documents.

Therefore, this study investigates how Italian state universities have approached social reporting from 2015 to 2022 and whether they present sustainability information on their websites without a reporting document. The research questions to be answered are as follows:
RQ1. How widespread were sustainability reporting processes in Italian public universities from 2015 to 2022?
RQ2. How are sustainability approaches communicated through institutional websites?
RQ3. What is the number of clicks to access sustainability reports via the website?

The 67 Italian public universities were selected, for each of which the relevant sustainability reporting document was downloaded via the Internet, focusing on the years from 2015 to 2022. The survey was carried out according to a multiple case study approach insofar as each academic reality was first considered individually and then together with the others to make a cross-comparison with all the units in the sample through which research results could generally be more reliable than those deducible through a single case study (An et al., 2020; Nicolò et al., 2021).

The methodology used to gather information is that of content analysis; specifically, first of all, the social reporting documents published were analyzed based on two main parameters: the temporal one, aimed at defining their diffusion over the years, and the one related to the type of document drawn up, generally coinciding with its name. The second step was to study the presence of a sustainability section on university websites. If so, we then wanted to understand the location of the sustainability section within the sites: distinguishing cases where such sections are integrated into the institutional web page or, otherwise, a hyperlink refers to specially created external sites. Ultimately, by combining the results of the previous analyses, we wanted to give an account of how many clicks were required to access sustainability reporting documents. The study helped to provide an indicator of the effectiveness of sustainability reporting.

Results and discussion

Documentary and temporal analysis of sustainability reports in universities

Starting with the study conducted by Fiorani and Di Gerio (2022), it was possible to identify the universities that have published, from 2015 to 2022, at least one sustainability reporting document, thus boasting past or current experience in social reporting. This allowed us to frame how this practice has developed over time and the different reporting methods adopted by individual universities. As shown in Figure 1, of the 67 Italian state universities, 51% (34 universities) have published at least one reporting document in the past eight years[1].
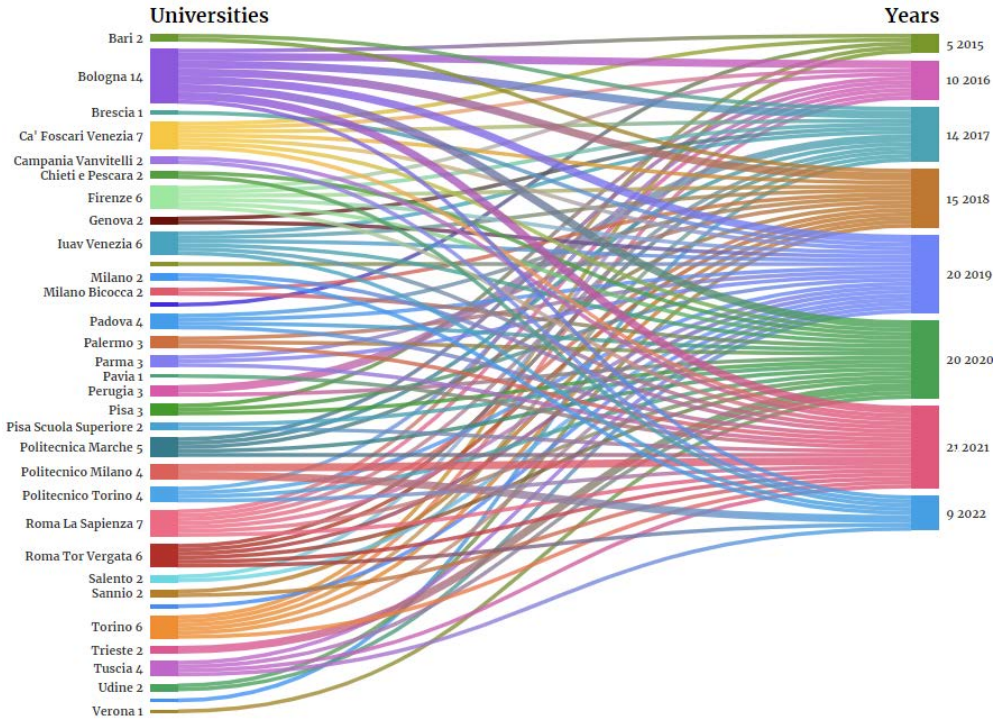

Figure 1. Adoption of sustainability reporting in Italian state universities (Source: Authors' own research results)

A relevant aspect regarding the time trend concerns the increasing intention of universities to take an increasingly proactive attitude toward drafting such documents. This trend represents the fruit of universities' increasingly solid awareness of their impact, thanks in part to the efforts of the Network for Universities for Sustainable Development (RUS), which, since 2015, has been working as a guide to encourage the implementation of sustainability logic in Italian universities[2]. Despite the growing trend, the approach to social reporting is, even today, highly fragmented, and this is also made evident by the type of document published over the years, distinguished based on the name chosen. As shown in Figure 2, there are different types of documents that universities have adopted: the most common is the sustainability report (*rapporto di sostenibilità*), followed by the social report (*bilancio sociale*). Some

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[1] Updated August 10, 2023.

[2] The RUS - Network of Universities for Sustainable Development is the first experience of coordination and sharing among all Italian universities committed to environmental sustainability and social responsibility issues. There are currently 85 member universities in Italy, including state and non-state universities.

universities have recently begun preparing integrated reports (bilancio integrato), while the environmental report (*bilancio ambientale*) formula is relegated to a single experience. The "Other designations" typology includes those financial statements whose name is strictly subjective and, therefore, not classifiable in the other, more generic designations.
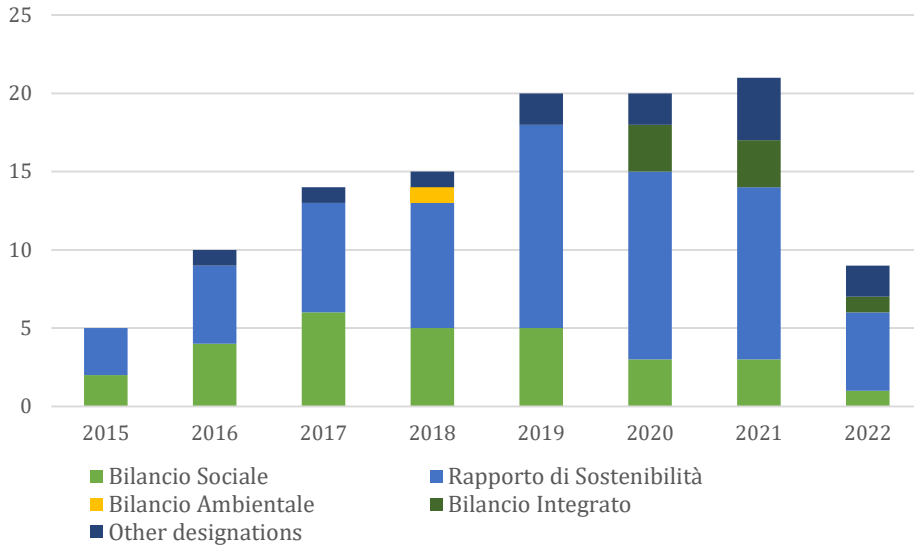

Figure 2. Reporting trends of Italian state universities
(Source: Authors' own research results)

Analysis of sustainability communication using websites

At this point in the survey, the absence of published social reporting documents does not necessarily assume a lack of other forms of sustainability communication. While it is true that all sustainability documents were downloaded through the Internet, it is also true that many universities employ their institutional websites to communicate their commitment to sustainability to users. What has just been said is well represented in Figure 3, where it becomes clear that the number of universities communicating sustainability through the Internet is even more significant than the entities that have approached social reporting more traditionally by publishing a report. This led us to want to understand how universities are using the Internet to implement other forms of social reporting.
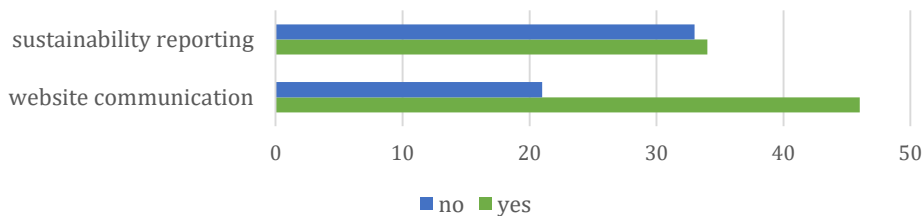

Figure 3. Sustainability communication modalities implemented by public state universities (Source: Authors' own research results)

Of 67 public universities, 46 (equivalent to 69 percent) have a web page to communicate the activities favoring sustainable development.

Another relevant aspect concerned the positioning of the sustainability section within the university portal. In most cases (63%, 29 universities), universities have placed the sustainability section directly on the home page or under the heading "Chi siamo" (About us); this allows the user an immediate and easy retrieval of the information but also the perception that this topic is essential for the university as it is included among its strategic and operational activities. In the remaining 37% (17 universities), on the other hand, sustainability is a subheading of another section of the main menu, placing itself more under the "Third Mission" area. This choice probably stems from the fact that the main sustainability-related activities reported on the web refer to community engagement, social inclusion, and public engagement initiatives aimed at raising the academic community's awareness of socially responsible behavior inside and outside the university campus. From this analysis, it was also possible to verify whether or not the sustainability section referred back to an external site. Figure 4 shows that while 14 universities have an external sustainability website in the university, the remainder (32 universities, equivalent to 70 percent) tend to employ a dedicated sustainability section within their institutional website. This second connotation is preferable primarily for communication and branding reasons, as indicated by Cox and Dale (2002); keeping the user within the website is a good starting point to respect the navigation's linearity (in terms of colors, graphics, and editorial standards).
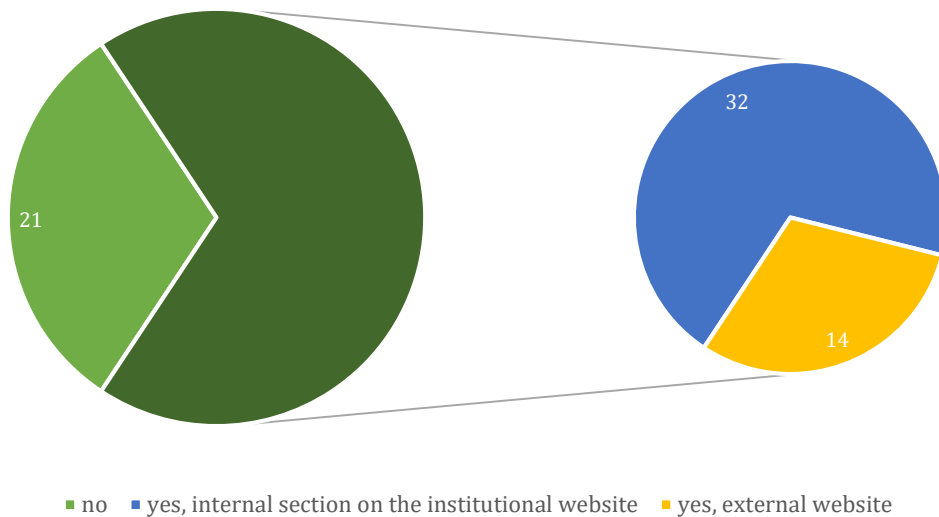

■ no   ■ yes, internal section on the institutional website   ■ yes, external website

Figure 4. Presence and position of the sustainability section on the websites of Italian state universities (Source: Authors' own research results)

Given the more significant number of universities that have a sustainability webpage at the expense of preparing a reporting document, we next wanted to understand the relationship between the publication of sustainability disclosures and the use of the Internet to communicate sustainability through the elaboration of a Sustainability Communication Matrix (Figure 5) from the reading of which it can be seen that the

highest percentage is represented by universities that, in addition to publishing a sustainability report, carry out additional sustainability communication through the institutional website. In contrast, the lowest rate represents those realities where communication is carried out only by drafting a sustainability reporting document.

In the lower left quadrant are 17 universities (equivalent to 25% of the sample) that do not engage in sustainability communication in any form. The reasons for this lack of engagement are likely to be found in the fact that most of the universities that fall into this quadrant have not yet joined the RUS or have done so only in recent years and, therefore, still have little commitment to the integration of sustainable approaches and, consequently, to the reporting of sustainability practices. In the diametrically opposite quadrant, however, are 30 state universities (about 45%) engaged in sustainability reporting and using the site for its intended purposes. These are lead universities, which, for several years already, have been involved in the reporting process and have long since joined the RUS. Although in the minority, four universities were also identified that prepare a sustainability report. However, they need a section on the website communicating the social responsibility and environmental sustainability activities they pursue. As we will see later, it is usual for the reporting document to be uploaded to the sustainability web page. In these specific cases, as there is no such section on institutional sites, reports are placed in particular areas from which it is possible to access sections dedicated to social reports and non-financial reporting.

Finally, the analysis showed how the lack of sustainability reporting documents does not exclude the possibility of employing other forms of sustainability communication to inform users. In this condition (upper left quadrant), 16 universities were ranked that, despite not publishing a report, use the web as the primary information and communication tool of the sustainability logic undertaken.

		no	Yes
Website communication	yes	**DIGITAL UNIVERSITY COMMUNICATION** (16 of 67) NEED TO MAKE COMMUNICATION SYSTEMATIC AND COMPREHENSIVE	**SMART 2.0 UNIVERSITY COMMUNICATION** (30 of 67) GOOD OVERSIGHT OF SUSTAINABILITY COMMUNICATION
	no	**SLUGGISH UNIVERSITY COMMUNICATION** (17 of 67) NEED TO IMPROVE SUSTAINABILITY REPORTING AND COMMUNICATION PRACTICES	**TRADITIONAL UNIVERSITY COMMUNICATION** (4 of 67) NEED TO ENCOURAGE PROMPT AND TIMELY COMMUNICATION

Sustainability reporting

Figure 5. Sustainability Communication Matrix
(Source: Authors' own research results)

Accessibility to reports via websites

To conclude, at this stage of the research, the 34 universities ranked in the right quadrants of the Sustainability Communication Matrix (Figure 5), it was also determined the level of findability of sustainability reporting documents by measuring the number of "clicks" that allow those visiting the university website to locate and access sustainability disclosures. Such a study parameter is beneficial not only to infer the importance given to this type of document but also to the location on the site and the immediacy with which these can be found. As mentioned above, to date, universities tend to make their documents available to users through the institutional website, which is precisely the primary tool for accessing sustainability reports published by universities and which allows the different academic realities to reach a more comprehensive number of stakeholders, also ensuring more immediate dissemination of the sustainability practices pursued. The number of clicks it took to access and download these documents was counted by entering the home page of each university's institutional website. The results of this initial analysis are shown in Figure 6, which anticipates a second consideration that emerged in the process, namely the discretionary choice of the universities of the location of the report within the website.
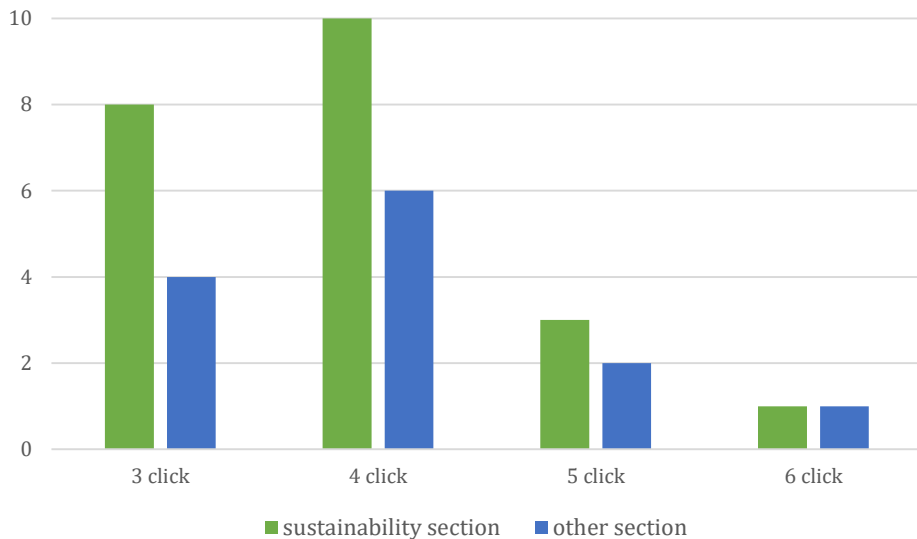

Figure 6. Click counter to access sustainability reports (Source: Authors' own research results)

In 12 cases, the sustainability reporting document can be reached through three clicks (Brescia, Verona, Padova, Udine, Parma, Roma Sapienza, Campania Vanvitelli, L'Aquila, Trieste, Bologna, Urbino, Palermo); for 16 universities four steps are needed (Politecnico Torino, Genova, Politecnico Milano, Milano Statale, Milano Bicocca, Ca' Foscari, IUAV, Pisa, S. Anna Pisa, Siena, Politecnica Marche, Firenze, Tuscia, Sannio, Napoli Federico II, Bari). Seven universities serve between five (Pavia, Firenze, Roma Tor Vergata, Perugia, Torino) and six (Chieti-Pescara, Salento) clicks to download the report from the home page of the institutional site[3].

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[3] The University of Firenze is repeated twice in that the social report is contained in two specific sections of the university website. It is, therefore, possible to access the social report from two different paths.

As mentioned earlier, most of the units in the sample place their report precisely in the sustainability sections described so far. In contrast, a tiny part places the reporting document within their website in a dissociated context from sustainability. In the case of the 12 universities that uploaded the report on the institutional website, there was a prevalent placement in the area of Budgets (five cases - Bologna, Firenze, Trieste, Bari, Perugia), where the document was included in the list of statements (economic-financial and otherwise) available. In three cases (Torino, Urbino, Politecnica Marche), the report was identified within the areas called Identity or Policies and Strategies, giving the tool the intent to represent the results obtained by the university against the activities undertaken at the strategic and operational levels. Likewise, to monitor the activities, two universities make the document accessible from the area dedicated to the Quality System (Tuscia, Sannio). In two other cases (Napoli Federico II, Palermo), it is retrievable among the press releases of the year of presentation. In contrast, in the case of the University of Salento, the social report is included among the documents with which the governing bodies of the Athenaeum are provided.

Conclusions

A growing interest in issues attributable to sustainable development has characterized the last three decades. This has led to the spread of behaviors and actions by organizations marked by socio-environmental responsibility logic and the use of accountability tools that allow them to be accountable to stakeholders for their commitment to the pursuit of sustainability goals (RUS-GBS, 2023). Universities are no exception, for which the approach to sustainability translates into a concrete commitment to teaching, research, third mission, and implemented strategies. Starting with the activities carried out, the need to disclose the results has prompted universities to adopt web-based communication alongside the more traditional sustainability reports. The research found that universities predominantly rely on websites for sustainability communication. The online portal appears to be the most appropriate channel for ensuring timely information capable of reaching a broad audience. More traditional forms of communication are included but guide communication strategies more systematically and comprehensively.

However, the research suffers from some limitations, mainly because it considers the analysis of state universities only. The study should be extended to the totality of Italian universities.

Another critical issue that can be accommodated in future research concerns a more significant and deeper analysis in comparative terms between the contents of the two forms of communication analyzed. This difficulty is due to the complexity of the investigation, related to managing a considerable amount of sources and data, as well as a relevant time-consuming process for the authors.

Finally, regarding the period under review, the phenomenon analyzed should be constantly monitored to update any findings and highlight new and potential trends.

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