

Influential variables of sustainability disclosures by Spanish public hospitals

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Please cite as:

Andrades, F.J., Larran, M., Muriel, M.J. y Calzado, M.Y. (forthcoming article).

Influential variables of sustainability disclosures by Spanish public hospitals, *Public and Performance Management Review*

<http://dx.doi.org/10.1080/15309576.2020.1765816>

This paper explores whether the extent of sustainability information disclosed by Spanish public hospitals is affected by internal characteristics of such organizations as well as by political ideology and socioeconomic variables. We used the institutional, stakeholder, and legitimacy theories to explain different levels of sustainability disclosures. To accomplish our goal, we collected data through content analysis of the institutional websites of all Spanish public hospitals registered in the 2016 National Database of Hospitals, corporate annual reports, and sustainability reports published by Spanish hospitals. The results show that the most influential variables associated with the extent of sustainability information disclosed by Spanish public hospitals are the hospitals' size, political ideology, and reputation as well as the access they have to the Internet. According to the legitimacy theory, the Spanish public hospitals that have revealed more sustainability information are more visible and may be perceived to have greater legitimacy in society. However, the extent of sustainability information disclosed by Spanish public hospitals is far from being adequate. According to the institutional theory, this is explained by the lack of coercive and normative forces.

Key words: disclosure, legitimacy, stakeholders, web content analysis, sustainability

Introduction

At the international level, different events (climate change, bankruptcies, or financial crises) have resulted in a greater concern for the social and environmental impact of the activity of organizations, both public and private (Higgins & Coffey, 2016). Therefore, there is a growing social demand for a greater transparency of sustainability information in public and private organizations to improve the organizations' reputation and meet the informational demands of different stakeholders (Andrades & Larran, 2019; Ortiz, Navarro, & Alcaraz, 2018).

As a result, the sustainability reportingⁱ has grown in recent years and especially in the context of large corporations (Fusco & Ricci, 2019). According to the Global Reporting Initiative (GRI), sustainability reporting is “the practice of measuring, disclosing, and being accountable to internal and external stakeholders for organizational performance towards the goal of sustainable development” (Global Reporting Initiative, 2011, p. 3).

In research, the topic sustainability reporting has traditionally focused on the private sector (Guthrie & Farneti, 2008; Farneti & Guthrie, 2009). Compared to the

private sector, sustainability reporting in the public sector has received a little attention and this practice is still in its early stages (Williams, Wilmshurst, & Clift, 2011; Goswami & Lodhia, 2014). The research on sustainability reporting in the public sector has been limited to local governments, universities, and state-owned enterprises (Andrades & Larran, 2019; Fusco & Ricci, 2019).

Nevertheless, the public sector represents 40% of all the economic activity in the world (Williams et al., 2011). Also, public sector organizations provide essential services to society, and it would be expected that organizations that make up the public sector play a leading role in promoting sustainability disclosures (Goswami & Lodhia, 2014; Rodriguez-Bolivar, Garde-Sanchez, & Lopez-Hernandez, 2015).

Among the segments of organizations that are integrated within the public sector, public hospitals deserve special attention for the following reasons (Rohini & Mahadevappa, 2010): First, health care expenditures among the Organisation for Economic Cooperation and Development (OECD) countries have experienced an increase of over 3% on an average of the Gross Domestic Product during 1995–2014 (Malmlose, 2019). Second, the main purpose of public hospitals is to satisfy a social need, such as the provision of a quality medical service (Brandao, Rego, Duarte, & Nunes, 2013; Macuda, 2016). Third, public hospitals generate much waste, and they are one of the largest consumers of energy and water (Chang, S.W. Wang, & R. Wang, 2018; Kruger, Araujo, & Curi, 2017). Hospitals have equipment and installations that have a negative environmental impact when used (Kruger et al., 2017). Thus, these public organizations are responsible for promoting sustainability practices, including the reduction in the environmental damage (Chang et al., 2018).

Considering their economic, social, and environmental impact, public hospitals are under public scrutiny and reporting on sustainability aspects would help them to

legitimize their behavior in society and to meet stakeholders' demands (Macuda, 2016; Monfardini, Barretta, & Ruggiero, 2013). Together with the previous arguments, different authors have stated that there is a general lack of empirical studies that have investigated the sustainability reporting in the hospital context (Fusco & Ricci, 2019; Malmose, 2019).

Hence, this paper explores how the extent of sustainability information disclosed by Spanish public hospitals can be affected by the internal characteristics of such organizations as well as by political ideology and socioeconomic variables. From a theoretical standpoint, the institutional, stakeholder and legitimacy theories have been selected. According to these theories, the extent of sustainability disclosures by Spanish public hospitals is considered as a response to the pressures exerted by institutional forces and other influential stakeholders to achieve legitimacy.

To accomplish our goal, we collected data by using three different sources of information. First, the content analysis of the institutional websites of all Spanish public hospitals registered in the 2016 National Database of Hospitals was performed. Then, the authors examined the content of two types of documents: corporate annual reports and sustainability reports of Spanish hospitals available on their websites.

The Spanish context represents a good case study for the following reasons: First, some reports have stated that public corruption is one of the main concerns of Spanish citizens (e.g., see Sociological Research Center, 2018). This would impact the trust that citizens have in transparency and accountability of the public sector in Spain; Second, several regulations have been approved by the Spanish government to promote the disclosure of sustainability information of public sector entities (Saez-Martin, Caba-Perez, & Lopez-Hernandez, 2017); Third, the research on sustainability reporting in the Spanish public sector has mainly been addressed from the context of local governments

and universities (Garcia-Sanchez, Frias-Aceituno, & Rodriguez-Dominguez, 2013; Garde, Rodriguez, & Lopez, 2013) while the attention to the hospital sector has been neglected.

The remainder of the paper is structured as follows: First, the institutional background is explained, followed by public management and accountability models. Second, the literature review and the theoretical positioning are described. Third, we discuss the variables and development of hypotheses. Then, we explain the methodology and the sample. At the end, we report the results, discuss the findings, state the limitations of the paper, and provide suggestions for future research.

Institutional background

Legal framework for corporate disclosure practices in Spain

Under the policies approved by the European Union, the Spanish government has adopted three main regulations that contain mandatory reporting requirements for public sector organizations in Spain (Larrinaga et al., 2018)ⁱⁱ. According to the requirements indicated in such regulations, the Spanish sustainability reporting system is mandatory for only larger public business entities and state-owned enterprises (Andrades & Larran, 2019). Reputation appears to be the main factor in making sustainability reporting mandatory for these organizations. For other public sector organizations, such as public hospitals, the Spanish reporting system is partially mandatory, including some requirements of the information disclosure on corporate governance aspects that are included in the Spanish law on transparency (Saez-Martin et al., 2017).

Research on sustainability disclosures by public sector organizations

Different empirical studies have examined the extent of the voluntary disclosure of sustainability information by public sector organizations (Farneti & Siboni, 2011;

Guthrie & Farneti, 2008) or has explored the variables affecting the level of such disclosures (Alcaraz, Navarro, & Ortiz, 2014, Alcaraz et al., 2015; Birskyte, 2019). A number of studies have focused on the sustainability reporting practices in different organizational and national contexts (Garcia-Sanchez et al., 2013; Papenfub, Grüb, & Frieländer, 2015; Larrinaga et al., 2018) but not many have focused on the hospital sector (Malmlose, 2019). Results from these studies have revealed that the proportion of sustainability information disclosed by public sector organizations is low (Guthrie & Farneti, 2008; Larrinaga et al., 2018) and the level of disclosure is related to demographic factors (Alcaraz et al., 2015) or the cultural environment (Greco et al., 2012).

Theories and hypotheses

This study uses institutional, legitimacy, and stakeholder theories to explain different behaviours in the sustainability disclosure of hospitals. Under the institutional perspective, organizations are susceptible to adopt an isomorphic behavior explained by three main forces: mimetic, normative, and coercive pressures (Di Maggio & Powell, 1983). The legitimacy theory is built on the basis that organizations are influenced by society, and this implies that an entity exists if society confers its legitimacy (Fusco & Ricci, 2019). According to this theory, sustainability disclosures are used by public and private organizations to be perceived as legitimate in society (Lubis, 2018; Larran et al., 2019). Since public hospitals receive most funding from the government, disclosing sustainability information can enhance its social legitimacy if the public cares about sustainability (Alcaraz et al. 2015). The stakeholder theory is built on the idea that organizations have to be accountable to all the agents involved and interested in their activity (Freeman, 1984). The management of relationships with stakeholders is

becoming of critical importance because the higher the influence of a stakeholder group, the more important it will be to manage the relationship with the said group (Gray, Kouhy, & Lavers, 1995). From this perspective, organizations disclose social and environmental information to meet the demands of those stakeholders that have more influence and power on the organization (Da Silva & Aibar, 2010). Following this logic, public hospitals could disclose sustainability information to satisfy demands from their key stakeholders, such as the government and their employees (Alcaraz et al., 2015; Rohini & Mahadevappa, 2010).

Organizational factors, political factors, and socioeconomic contexts are used to explain sustainability reporting behaviors of hospitals in Spain. Most of the previous studies have found that larger organizations report more sustainability information compared to smaller ones because they are more exposed to public scrutiny and this practice enhance its legitimacy (Castelo & Lima, 2008; Gray et al., 1995). Also, large public hospitals have more stakeholders and have more capacity to meet their demands (Larran et al., 2019). Thus, this study hypothesizes that:

H1: Larger public hospitals are more likely to disclose more sustainability information compared to others.

The recent literature on sustainability reporting states that a greater exposure to public leads to an increased concern for the disclosure of sustainability information as a strategy for legitimization in society (Michelon, 2011; Reverte, 2009). One way of acquiring more visibility is through appearance in rankings because this helps to create reputation (Baden, Ravazzolo, & Schweizer, 2000). According to the legitimacy theory, some authors have noted that best-placed public organizations in performance or sustainability-based rankingsⁱⁱⁱ have more visibility in society, and they can disclose more sustainability information as a strategy for legitimization (Larran et al., 2019).

Based on the stakeholder theory, public organizations with top marks in rankings have power to implement social change initiatives, and this could drive a stronger commitment to the disclosure of sustainability information (Garde et al., 2013).

Considering the above arguments, the following hypothesis is proposed:

H2: Spanish public hospitals located in regions with top marks in transparency rankings are more likely to disclose more sustainability information compared to others.

Different studies have found a positive association between sustainability disclosures and the level of economic development of a region or municipality (Alcaraz et al., 2014; Saez-Martin et al., 2017). For this study, it is expected that Spanish public hospitals located in cities with a better level of economic development are more likely to report the increased levels of sustainability information. According to the stakeholder and legitimacy theories, the managers of public hospitals could disclose sustainability information to meet the demands of the citizens who are concerned about the manner in which public resources are being used by hospitals and this could legitimize their behaviour in society (Alcaide, Rodriguez, & Lopez, 2017; Alcaraz et al., 2015; Garcia-Sanchez et al., 2013). In accordance with the above considerations, the following is established:

H3: Spanish public hospitals located in cities with a higher economic capacity are more likely to disclose the increased extent of sustainability information compared to others.

The previous empirical research has found that the citizens' level of the Internet access is positively associated with sustainability disclosures by public sector organizations (Alcaraz et al., 2014). According to the stakeholder and legitimacy theories, public hospitals located in cities with higher rates of access to the Internet

could have better levels of sustainability disclosure because they have to satisfy the needs of a greater number of potential users and this could improve their visibility in society (Brusca, Rossi, & Aversano, 2016; Garcia-Sanchez et al., 2013; Saez-Martin et al., 2017). Therefore, we propose the following hypothesis:

H4: Spanish public hospitals located in cities with higher rates of access to the Internet are more likely to disclose the increased extent of sustainability information compared to others.

The previous research has manifested that left-wing governments tend to show a stronger commitment to transparency than right-wing governments (Guillamon, Bastida, & Benito, 2011; Saez-Martin et al., 2017). Left-wing governments tend to be in favor of a stronger public sector to promote social policies and they could disclose sustainability information to reinforce its visibility by revealing how these social policies are achieved (Garcia-Sanchez et al., 2013; Saez-Martin et al., 2017). According to the stakeholder theory, left-wing governments would disclose the increased levels of sustainability information in response to the demands of their voters who are interested in the approval of social policies by such governments (Garcia-Sanchez et al., 2013; Guillamon et al., 2011). Therefore, we suggest the following hypothesis:

H5: Spanish public hospitals located in the regions governed by progressive political parties are more likely to report the increased extent of sustainability information.

Methodology

Sample selection

The Spanish health system is controlled by the Ministry of Health, Social Services and Equality, the administrative body of the Spanish Government being responsible for

providing and managing health services in Spain^{iv}. For this study, public hospitals integrating the Spanish health system have been selected. According to the data published by the 2016 report of the National Health System, Spain is composed of 343 public hospitals with a total of 108,108 beds installed (Ministry of Health, Social Services and Equality, 2016). Among them, the majority are general hospitals (263 out of 343). Catalonia is the Spanish region with the highest proportion of public hospitals (63), followed by Andalusia (48), Valencia (38), and Madrid (35). The process of selecting the sample and its incorporation into an Excel database was performed from December 2016 to June 2017.

Data collection, analysis and treatment

Three data sources were used to measure sustainability reporting: website disclosures, corporate annual reports, and sustainability reports of Spanish public hospitals. None of these sources of information is mandatory for Spanish public hospitals. Content analysis was done to analyze data through these sources.

The analysis was performed in two different periods. In the first stage, the examination of the web pages of all Spanish public hospitals (343) was carried out during June 2017 to June 2018. In the second phase, we analyzed the content of the annual reports and sustainability reports published by Spanish public hospitals during February 2019. In more detail, we examined the most recent reports published by each hospital from 2015 to 2018. This allowed us to find that only 99 of 343 Spanish public hospitals published a corporate annual report or sustainability report on their websites during this time.

The combined examination of webpages and reports reports gives us a comprehensive picture of sustainability disclosures in comparison with the analysis of a

single source of information (Farneti & Guthrie, 2009; Ortiz, Rodriguez, & Alcaraz, 2018). Websites and corporate annual reports or sustainability reports are communication channels that have different objectives and different audiences (De Villiers & Van Staden, 2011). Website disclosures are being used by public sector organizations as a powerful channel to communicate with citizens and public in general the social aspects and the general profile of the organization (Garde et al., 2013; Navarro et al., 2017; Ortiz et al., 2018). In comparison with reports, web-based disclosures are more dynamic because they allow communicating in real time those events that have happened recently and have impacted society (Dumay, 2016; Lodhia, 2010). Meanwhile, annual or sustainability reports are the most appropriate reporting mediums to communicate with governments and employees the economic and environmental performance and the information that covers labor aspects (Farneti & Guthrie, 2009; Goswami & Lodhia, 2014). The public sector organizations tend to disclose sustainability information in their annual/sustainability reports when they have a bad social or environmental reputation (De Villiers & Van Staden, 2011). In comparison with web-based disclosures, corporate annual reports or sustainability reports are more credible because they incorporate the audited information (Andrades & Larran, 2019; De Villiers & Van Staden, 2011).

As in previous studies, we used as a unit of measurement to ascertain whether an information item was disclosed a binary dichotomous scoring system (Larran et al., 2019). A score of 1 was given when an information item was disclosed and 0 otherwise (Saez-Martin et al., 2017). This allowed us to obtain a numerical indicator of the extent of sustainability information disclosed, and this is known as a disclosure index (Garcia-Tabuyo et al., 2016). For our study, and in line with the previous studies, we developed a series of un-weighted indexes, one for each of the dimensions associated with the

sustainability concept (Larran et al., 2019). Regarding the procedure, three researchers were in charge of the coding data. This was done to avoid the problems associated with the potential effect of subjectivity in the data collection process (Larran et al., 2019). The fourth researcher interviewed to solve possible discrepancies resulting from the different interpretation concerning the method to code the information. This allows improving the accuracy of the coding process (Garcia-Tabuyo et al., 2016).

To select the coding framework, we employed the instrument used by Navarro, Alcaraz, and Ortiz (2010). This instrument is composed of the set of indicators based on the G3 Guidelines of the GRI, as well as the items proposed by the initiative's Public Agency Sector Supplement whose elaboration was particularly designed for public entities. This framework has been used in more recent studies to examine the level of sustainability transparency of local governments (Alcaraz et al., 2014, 2015; Ortiz et al., 2018).

The selected instrument comprising 73 items was categorized as follows: 26 indicators were related to general information; 24 indicators were about economic dimension; 10 indicators were related to reporting on social aspects, and 13 indicators were about environmental dimension. For calculating the indexes, we created four un-weighted indexes, one for each dimension. Also, a disclosure index for all indicators was developed. Each of these five indexes was calculated for each hospital. The indexes were calculated by adding the total indicators a hospital reported (in a dimension/in total) to the maximum number of indicators that could be reported (in a dimension/in total).

For general dimension, the index was measured as the sum of the total indicators that each Spanish hospital reported by 26 indicators that make up this dimension. Thus, a hospital that disclosed 10 items (out of 26) means it disclosed 38.46% of all indicators

that make up the general information. This process was also performed for other dimensions. For all indicators, the index was calculated by adding the total indicators reported by a Spanish hospital divided by 73 indicators that make up the coding framework. Thus, a hospital that disclosed 60 items (out of 73) means it disclosed 82.19% of all indicators.

Once the data was analyzed, the next step was to explore how different variables can affect the extent of sustainability information disclosed by Spanish public hospitals. This was conducted during March 2019. In the first stage, we performed the Kolmogorov-Smirnov normality test, and the results showed all variables were not based on normal population (Not reported). Then, we performed a multiple linear regression model whose statistical method is characterized by the dependent variable being continuous.

Organizational size as an explanatory variable is measured through the number of the beds installed in each Spanish hospital. We assume that hospitals with more beds are not only bigger from a physical perspective but also require many employees and greater resources. This data was extracted from the 2016 report of the National Health System. The reputation variable is measured through the position assigned to each Spanish region (autonomous community) in a transparency index. This information was extracted from a report made by the International Transparency in 2016. This organization makes a biannual report in which it ranks each Spanish region concerning its level of compliance with a series of 80 indicators related to transparency. Per capita income in 2016 extracted from the Tax Agency information system is used to measure economic status, and public access to the Internet was extracted from the broadband coverage report by the Ministry of Industry, Energy and Tourism. Finally, the political ideology variable was measured as categorical and takes 0 when a hospital is located in

a region governed by a left-wing political party and 1 when the regional government is a right-wing political party. In general, the left-wing political parties are more interested in social policies while the right-wing political parties focus more on economic issues.

Results

Extent of sustainability information disclosed

From a global perspective, the results show the Spanish public hospitals, as a whole, have disclosed only 27.58% of all indicators used in measuring the amount of sustainability information disclosed. Comparing the levels of the disclosure in each of the four dimensions, the results show the proportion of sustainability information disclosed on general issues is slightly higher. In detail, this dimension is ranked the first with a level of the disclosure (45.34%) which is higher than the global arithmetic mean (27.58%). The social dimension is ranked the second with a proportion of the social information disclosed by Spanish public hospitals at 21.11%. Meanwhile, the level of the environmental and economic information disclosed is relatively lower if we compare it with the social dimension and mainly with the general information dimension.

The analysis shows that there is a greater proportion of sustainability information disclosed about the organization profile of hospitals in comparison with other sub-dimensions. In more detail, Spanish public hospitals have disclosed 52.61% of indicators that make up the sub-dimension organization profile. The second sub-dimension with a higher level of information disclosed is related to strategy and analysis (46.11%), followed by the sub-dimension information parameters (43.73%). Meanwhile, the proportion of the information disclosed on governance and stakeholder sub-dimension is relatively scarce compared to other sub-dimensions of the general

information block. The results show the Spanish public hospitals have revealed only 27.69% of all indicators in such sub-dimension.

Concerning the economic dimension, Table 1 shows that, in general, the level of disclosure of the information is low regardless of the indicator used and compared to the general information dimension. Except for some cases, like information about training activities (51.31%), contractor profiles (37.90%) or accountability processes (37.03%), Spanish public hospitals have disclosed less than 17% of all indicators that make up the economic dimension. The information about governance and management guidelines at 2.33% or commitment to the governance and management guidelines at 1.46% can be cited as less disclosed indicators.

From a general view, Spanish public hospitals have disclosed a low level of social and environmental information compared with the level of disclosure regarding general issues, except for some items. Regarding the social dimension, the most disclosed indicators are related to reporting on the provision of services (61.22%), provision of public employment (45.48%), and efficacy and efficiency measures (42.57%). Regarding the environmental dimension, most indicators have not been disclosed by over 18% of Spanish public hospitals, except for three items: initiatives to mitigate environmental impacts of products and services (18.66%), enhance energy saved due to conservation and efficiency improvements (18.08%), and provide energy-efficient or renewable energy-based products and services (18.08%).

[Insert Table 1 here]

Focusing on the 99 Spanish hospitals that have published a corporate annual or sustainability report on their websites during 2015 to 2018, we have identified that only 14 hospitals have based their report on the GRI standards. Regarding the level of the global disclosure, the hospitals that have elaborated their reports according to the GRI

standards have had, on average, a better level of sustainability disclosure than those hospitals that have made their reports according to other frameworks/structures (86.42 versus 51.21%).

Variables influencing sustainability disclosures

Table 2 shows the descriptive statistics of the independent variables. The average number of the beds installed in each Spanish public hospital is 313.82. The large standard deviation (318.03) shows that the organizational size of hospitals is heterogeneous. Interestingly, most hospitals studied are located in regions with high rates of access to the Internet and in regions that have received top marks in transparency rankings. Concerning the economic capacity, the data reflects there is a similar proportion of hospitals located in regions with higher level of income and hospitals in regions with lower levels of income. Considering the political ideology, the data shows there is a balance between hospitals in regions governed by the left and right governments.

[Insert Table 2 here]

Table 3 shows the regression results. All independent variables, except for the economic capacity, are influential determinants of sustainability disclosures by Spanish public hospitals. For general dimension, Spanish public hospitals that have disclosed more sustainability information tend to be larger organizations, located in cities with high access to the Internet, ranked in top positions in transparency rankings, and located in regions governed by conservative political parties. These statistical findings confirm most of our hypotheses, except for the political ideology hypothesis.

Focusing on the economic dimension, the results reveal a positive association between the volume of the economic information disclosed by Spanish public hospitals and all variables selected. Most of these results are consistent with our expectations.

However, contrary to our hypothesis, the political ideology is positively associated with the amount of the economic information disclosed by Spanish public hospitals. This reveals that public hospitals located in regions governed by the conservative political parties tend to disclose more sustainability information from an economic perspective.

For social dimension, our results are similar to the findings obtained in the previous models. All variables are influential in explaining the disclosure of sustainability information. Except for political ideology, these results are consistent with our hypotheses.

The results also confirm our hypothesis that public hospitals located in regions with higher transparency rankings are more likely to disclose more environmental information,. There is also a positive and statistically significant association between the proportion of the environmental information disclosed and organizational size.

Finally, the data on the global index shows the disclosure of sustainability information are related to organizational size, access to the Internet, political ideology, and reputation. However, contrary to Hypothesis 5, public hospitals located in the regions governed by the conservative parties tend to disclose the higher extent of sustainability information. Moreover, economic capacity has not been statistically significant in four of the five models. Public hospitals located in regions with a higher level of economic development tend to disclose more sustainability information from the general, economic, and social perspectives. Therefore, Hypothesis 3 is partially accepted.

[Insert Table 3 here]

Discussion and implications

Previous studies found that the extent of sustainability disclosures by public sector organizations was low (Farneti & Siboni, 2011; Guthrie & Farneti, 2008; Larrinaga et

al., 2018). Our results add new insights to this conclusion by showing that Spanish public hospitals tend to disclose more information on general aspects, followed by the social issues of sustainability.

Our results also demonstrate that Spanish public hospitals that have elaborated and published their corporate annual or sustainability reports according to GRI-based indicators have had better levels of the disclosure compared to hospitals that have not followed the GRI standards. This allows the conclusion the use of GRI standards helps to standardize the disclosure of sustainability information by any public or private organization (Fonseca, MacDonald, Dandy, & Valenti, 2011). In fact, the GRI standards are the most common framework used to measure and report the sustainability information, and this could be interpreted as an indication of the disclosure quality (Goswami & Lodhia, 2014).

We find some possible answers to explain why the extent of sustainability information disclosed by Spanish public hospitals is low. First, the low level of sustainability disclosures by Spanish public hospitals could be explained by the limited effect of the standardization and professionalization derived from implementing the NPM reforms in Spain in comparison with countries from the Anglo-Saxon region. The Anglo-American countries have reformed the structure of their public administration on the basis of the NPM principles (Christensen & Lægreid, 2015; Howlett, 2004; Kickert, 2007). Their public management style emphasizes the efficiency and accountability of public sector organizations (Torres & Pina, 2004). Meanwhile, the Spanish public sector has implemented NPM reforms through a set of isolated initiatives with a cosmetic impact rather than a transformative change (Ortiz et al., 2018; Pina & Torres, 2003). The previous studies have shown that public sector organizations from countries like the United Kingdom, Australia, New Zealand, or the United States have disclosed the

increased levels of sustainability information compared to others (Garde et al., 2013). In the corporate sector, the enterprises from the Anglo-American countries have been pioneering in the discourse of sustainability reporting (Gray et al., 1995; Hackston & Milne, 1996; Parker, 2011). Thus, and according to the limited impact of the normative forces of the institutional theory, the low level of sustainability disclosures by Spanish public hospitals may be associated with the lack of standardization and professionalization. This practice derives from its public management style that does not promote an accountability culture, and this hinders the transparency of sustainability information of Spanish public sector organizations like hospitals.

Second, the low extent of sustainability information disclosed by Spanish public hospitals could be explained by the reduced impact of the coercive forces derived from the mandatory requirements in the law. In the Spanish setting, the sustainability reporting system is mandatory only for the state-owned enterprises and other public business entities (Larrinaga et al., 2018). Only public hospitals are required to disclose the information on institutional and economic issues derived from the Spanish law on transparency. Thus, the coercive effect derived from the Spanish legislation is limited to public hospitals. Different authors have pointed out that public sector organizations tend to disclose the information covering those aspects that are considered mandatory (Guthrie & Farneti, 2008; Williams et al., 2011). This means that public sector organizations tend to disclose the information they are interested in reporting. In the Spanish public sector, although some laws and regulations have been approved concerning sustainability disclosures, the extent of the information disclosed remains quite limited (Larrinaga et al., 2018). On examining the content of the Spanish Economy Law, we find the lack of coercive forces, such as the implementation of the

sanctions in case of non-compliance, which affects the commitment to sustainability disclosures by state-owned enterprises.

Considering the above arguments, we note that those Spanish public hospitals that have revealed more sustainability information are driven by the reasons of legitimacy and satisfaction of the informational needs of powerful stakeholders. For this study, we have found that the most influential variables to explain the proportion of sustainability information disclosed by Spanish public hospitals are size, access to the Internet, political ideology, and reputation.

First, we have found there is a positive association between sustainability disclosures and the organizational size variable, and this is consistent with our initial assumption. In line with the legitimacy theory, large public hospitals are more exposed to public scrutiny and they could disclose more sustainability information to be legitimate in society mechanism to improve their reputation (Garde et al., 2017; Lubis, 2018; Macuda, 2016). According to the stakeholder theory, large public hospitals, as they have more resources, are better able to satisfy the needs of those stakeholders who have more power over such organizations, such as the government and employees (Larran et al., 2019). Since most previous studies examine only the influence of the population size instead of the organizational size, this study has provided new insights on practices of sustainability disclosures.

Other findings about the impacts of transparency ranking and access to the internet are also consistent with our hypotheses. However, the finding related to political ideology is contrary to our initial expectations. Conservatives should be more concerned with economic issues instead of social matters. It is puzzling why public hospitals located in the regions governed by the conservatives have a higher level of sustainability information disclosure. It is possible that the disclosure of sustainability

information could be used as an opportunistic behavior for politicians to improve their social visibility in society. More future studies need to explore if this behaviour is used to enhance the legitimacy of the ruling parties.

In general, Spanish public hospitals have to improve their commitment to sustainability reporting. At present, the public sector in Spain is quite bureaucratic and too focused on compliance with administrative regulations. It is necessary to implement changes that encourage greater efficiency and accountability in the public sector, including public hospitals. Another possible reform is to require sustainability reporting for all public sector organizations.. However, this will require the development of a common system to measure and report on sustainability for the public sector, including public hospitals (Dumay, Guthrie, & Farneti, 2010). This will reduce the lack of reporting comparability across organizations (Ball & Bebbington, 2008). In this way, some authors have argued the potential benefits of adopting an integrated reporting framework to disclose sustainability because it would provide a complete vision of the organizational performance (Montecalvo, Farneti, & De Villiers, 2018). Another possible reform is to introduce coercive forces to guarantee the compliance with mandatory reporting requirements. Policy makers could implement monitoring measures to strengthen the compliance with the law or to penalize organizations that do not comply with such requirements. However, public sector organizations would need a long period of time to accept and adopt the changes contemplated in such reform. It is required other conditions to create a norm that allows the compliance with the implementation of a new framework.

Limitations and future research

Our results have revealed that the proportion of sustainability information disclosed by

Spanish public hospitals is rather low. However, those public hospitals that are larger, and located on regions governed by conservative parties, with higher access to Internet and with better marks in transparency rankings have disclosed more sustainability information. Based on the legitimacy theory, these hospitals are more visible and may be perceived to have greater legitimacy in society.

However, as with other studies, this research paper has its limitations. One potential shortcoming is related to the focus of our research. We have examined the extent of sustainability information disclosed by Spanish hospitals and the variables associated with this fact. In future, it could be extended to explore how such public organizations can introduce changes in their processes. To accomplish this task, it would be necessary to perform a case study approach by selecting some hospitals. A second potential limitation could be associated with the selection of the GRI standards as a reporting tool. There is no specific GRI standard aimed at assessing and reporting on sustainability in the case of hospitals. Third, the focus of this study was concentrated on the Spanish region. To contrast the effect of different institutional factors, this study could be extended to other regions in Europe. Fourth, the variables selected have been based on those that have been commonly used in the previous studies on sustainability disclosures by other public sector organizations, such as governments. In future research, it could be interesting to select variables that are directly related to the socioeconomic context of hospitals. Fifth, the scoring system is based on a dichotomous coding and does not allow us to measure the disclosure quality. To do this, and for a future version of the paper, it would be necessary to perform a more profound scoring (ranging from 0 to 3, for example) to detect different levels of information disclosure which could depend on the use of quantitative indicators, disclosure of both negative and positive information, and consistency of measures over time.

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ⁱ We have used the term sustainability reporting because this terminology is more widespread in the public sector accounting research. Other common terms that have been used by previous scholars are social reporting, non-financial reporting, or environmental reporting.

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- ii The Spanish sustainability reporting system is composed of the Spanish Law 2/2011 on Sustainable Economy, the Law 19/2013 on Transparency and Good Governance and the recently approved by the Spanish government 11/2018 law on Non-financial Information according to the Directive 2014/95/EU. This law transposes the EU 2014 Non-Financial Reporting Directive into Spanish law.
 - iii Transparency rankings could help to improve the visibility of the public sector organizations and this would help to build a better reputation in society.
 - iv The Spanish hospital system is controlled only by the Ministry of Health, Social Services and Equality. In Spain, health competencies are transferred to 17 autonomous communities (regions) of the country. Some public hospitals are owned by the central government (controlled and owned by the Ministry of Health), while other public hospitals are owned by the region or autonomous community in which the hospital is located (controlled by the Ministry of Health).