

Title

The contribution of Spanish companies to ending discrimination against women and girls through sustainable corporate reporting.

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Title

The contribution of Spanish companies to ending discrimination against women and girls through sustainable corporate reporting.

Summary

In order to investigate the contribution of companies to ending discrimination against women and girls based on company reports in Spain, we will apply the content analysis method supported by fuzzy logic using a scikit-fuzzy python package. However, we worked in a draft using the GRI standard to evaluate each company's reporting and assess the five best companies. They scored well, especially on representation and leadership. However, the authors should improve the analyses and extend the assessment criteria to other standards, regulations and feminist theory.

Word count

1534

Introduction

According to the World Economic Forum (WEF) (2020), Spain ranks 72nd out of 153 countries in terms of economic equality and female labour force participation, despite being among the top ten countries in terms of overall gender equality. This may suggest that the challenge of achieving gender equality is not only a task for the public sector, but also for the private sector.

The female employment rate in Spain is 56.9% of women able to work compared to 67.9% of men (EUROSTAT, 2022). In turn, there are regional differences, with Asturias, with a female employment rate of 42.3% (Instituto Asturiano de la Mujer, 2022), and the Balearic Islands, with a female employment rate of 61.1% (Govern Illes Balears, 2022), representing the extremes.

Women face a 'glass ceiling' throughout their careers in Spain and therefore remain underrepresented in decision-making positions. In the private sector, barely 22% of positions on company boards are held by women (WEF, 2020).

Spain is among the countries with the best indicators of gender equality, largely due to the existence of public policies focused on issues of prevention and attention to genderbased violence (Profeta et al., 2021), which should undoubtedly be implemented in collaboration with the private sector to create a safe working environment for women and other minorities.

The gender pay gap in Spain was 11.9% in 2019, lower than the European Union average (EUROSTAT, 2022). However, this progress is still very recent, so it is expected that the wage gap will remain for several decades. In turn, the Spanish government published two relevant royal decrees in 2020 that strengthened the principle of equal pay for equal work and introduced the principle of wage transparency (Profeta et al., 2021).

While men work an average of 161 hours per week, women in Spain are paid only 146 hours. This is despite the fact that women tend to perform more hours of unpaid work (EUROSTAT, 2022). The "maternity penalty" limits women economically and professionally, as evidenced by the fact that 40.5% of women still choose part-time employment to perform care work. In addition, women in Spain are 10% more likely to have temporary contracts than men (Hupkau & Ruiz-Valenzuela, 2022).

One of the prevailing problems in Spain in terms of gender equality is the gender gap in domestic work and care for children, the elderly, people with disabilities and/or the sick, which limits women's time in the labour market (UN Women, 2015). Societal perceptions that women should be responsible for care work permeate corporate hiring efforts, as those tasked with this work may favour men over women, especially if there is no diversity on teams (ILO, 2019).

In the wake of the pandemic, the Stability and Growth Pact (SGP) and the European Strategy 2020 were created with the goal of achieving economic recovery and growth in the Eurozone. In the context of employment, the SGP (2011) provides specific guidelines for member states' employment policies, identifying priority areas and structural reforms to be implemented. One of them is to promote a balance between security and work flexibility, since, as studies such as Meekes & Hassink (2022) confirm, women tend to lose more time commuting to work and have jobs with stricter schedules, resulting in a more exhausting double workday, along with doing household chores that are usually feminized.

One of the obstacles to women's career advancement is internal promotions and transfers. The majority of employed Spanish women work in the service sector, where comparatively lower salaries are paid. Similarly, women in Spain remain underrepresented in the highest-

paying positions, such as in science, technology, engineering, and mathematics (STEM), where women represent 12.4% and men 37.3% (WEF, 2020).

To meet the Millennium Development Goals, companies have historically relied on indexes such as the Global Reporting Initiative (GRI) to disclose their social performance. This index consists of three types of standards (universal, sectoral and thematic) that provide parameters for what companies should report in their voluntary sustainability reports. In the area of gender equality, the GRI is introducing some indicators in GRI 2 "Disclosures about the reporting organization" in 2021 and GRI 405 "Diversity and equal opportunities" in 2016. In 2009, GRI, together with the International Finance Corporation (IFC) and the governments of Germany, Iceland and Switzerland, published "Embedding Gender in Sustainability Reporting. A Practitioner's Guide," which is intended to serve as a guide for companies on how to report on gender-related issues. In 2022, the GRI and the United Nations Global Compact jointly published a guide entitled "Business reporting on SDGs. An analysis of the goals and targets 2022", developed for companies wishing to publish their contribution to achieving the SDGs; this document includes a section on Goal 5 Gender Equality and will be used for this study.

Thus, the aim of this research is to carry out a content analysis of the results related to ending discrimination against women and girls based on the sustainability reports of the Spanish companies with the highest turnover in 2022, using fuzzy logic.

Methodology

To conduct this study, the sustainability reports of the sample companies are retrieved from their websites. Boesso and Kumar (2007) argued that content analysis is the most commonly used method in accounting reporting research and quantitative content analysis is considered more reliable (Day and Woodward 2009).

On the other hand, the theory of fuzzy subsets contrasts with classical logic, in which there are only two levels of truth: true (0) or false (1). Fuzzy logic states that when examining a concept where there are ambiguities in classification, it can only belong to a set up to a certain level; that is, the correspondence of an element can be represented in the interval [0,1]. Fuzzy logic is particularly useful in the social sciences, especially in the field of economics and business management, since it is almost impossible to have precise data and certainty about the influence of events and variables, so we resort to uncertain data and thus subjective estimates. (Kaufmann et al., 1994).

The mathematical formulation could be expressed as follows: let X be the universe composed of corporate social responsibility reports denoted as x_i with $i = 1, \dots, n$, which possess a vector of j attributes or characteristics related to gender equality in companies such that $j = 1, \dots, T$. Let A also be a fuzzy subset of X , such that if $x_i \in A$ companies i are not deprived of any attributes.

If the degree of belonging of X_i to A is expressed by a function μ_A which can take values in the interval [0,1], then A will be a fuzzy subset. Thus, A could be expressed as $A = \{(x_i, \mu_A(x_i)), x_i \in X\}$.

In turn, the function μ_A which defines the degree of membership, shall be defined as:

$\mu_A(x_{ij}) = 0$ in case of does not belong to subset A .

$\mu_A(x_{ij}) \in (0,1)$ in case of partial membership of subset A , total or partial deprivation of some attributes but not total deprivation of them.

$\mu_A(x_{ij}) = 1$ in case of full membership in subset A .

Where $\mu_A(X_{ij})$ is an individual measure of deprivation specific to the indicator.

Regarding the attributes to be considered for the content analysis, the indicators in Target 5.1 of the document "Business reporting on SDGs. An analysis of the goals and targets 2022". This section includes indicators for gender equality, living wages, non-discrimination, maternity and paternity leave and inclusive supply chain.

Advances

A draft was created using a content analysis method and supported by fuzzy logic with the scikit-fuzzy python package. It is based on the GRI gender reporting guidelines (2009, 2016, 2021) of the 2021 annual and voluntary sustainability reports of the 5 Spanish companies with the highest turnover, according to the ESP500 ranking produced by theeconomist.es in collaboration with Informa D&B. Although the companies have achieved a good result in this first approximation, problems have been detected in the code that need to be solved. In turn, the attributes are aligned with those set out in target 5.1 of the document "Business reporting on SDGs. An analysis of the goals and targets 2022".

Part of the process developed in the draft is shown below:

Table 1: Correspondence Attributes with GRI Parameters

Input	GRI	Subset
Representation	GRI 2	2.7
	GRI 405	1
Leadership	GRI 2	2.9
	GRI 405	1
	GRI & IFC	Organizational Governance and Values
	GRI & IFC	Supply Chain
Society impact	GRI 2	2.23
	GRI 2	2.29
	GRI & IFC	Community
	GRI & IFC	Investment
Payment	GRI 405	2
	GRI & IFC	Workplace
Corporate policies	GRI & IFC	Organizational Governance and Values
	GRI & IFC	Workplace
Recruitment	GRI & IFC	Workplace
Flexible work	GRI & IFC	Workplace
Career development	GRI & IFC	Workplace

The total value of each attribute is the maximum score that could be achieved. The lowest score would be 0 if the company did not report on any of the above criteria in its annual or sustainability report. Each attribute (input) in turn has three linguistic labels: 'Soft', 'Medium' and 'Hard'. To distinguish between these designations, the individual value of each representation and the overall value of each attribute were considered. Triangular fuzzy numbers (TFN) were used to represent the linguistic labels.

The quality of the report can again take values from 0 to 10, depending on the scores obtained in the evaluation of the attributes. This output also has the linguistic labels 'Soft', 'Medium' and 'Hard'.

The rules of the control system were:

If one of the attributes was 'Soft', then the quality of the report can be 'Soft'.

If one of the attributes was 'Medium', then the quality of the report can be 'Medium'.

If one of the attributes was 'Strong', then the quality of the report can be 'Hard'.

Figure 1: Correspondence report's rating with linguistic labels

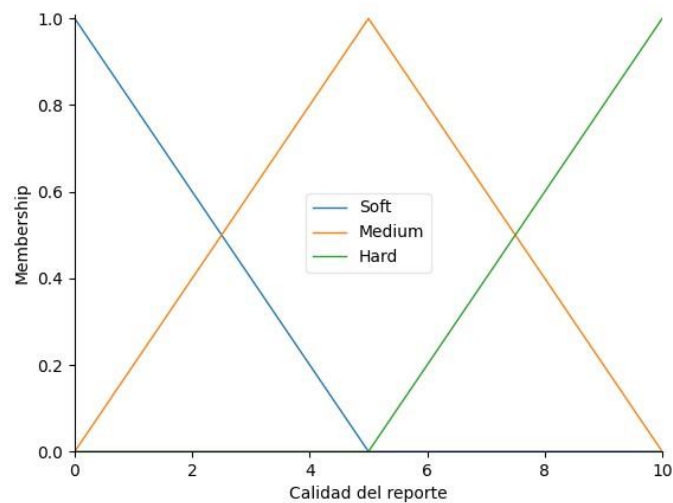
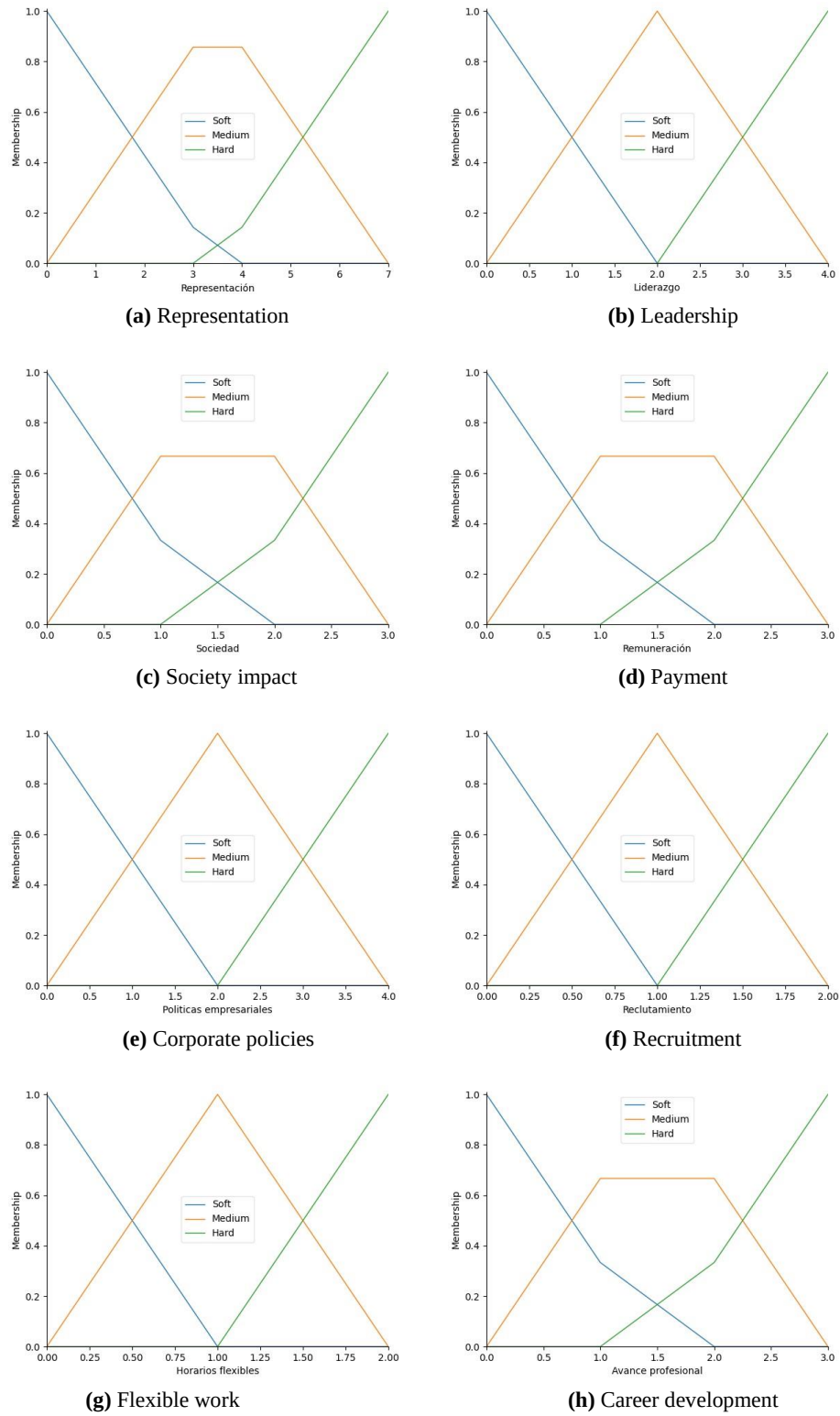


Figure 2: Correspondence attributes with linguistic labels



The results for the five companies were:

Table 2: Evaluation of the attributes

Input	Mercadona	REPSOL	CEPSA	Telefónica	Endesa
Representation	2	6	7	1	5
Leadership	2	2	3	3	3
Society impact	3	3	1	0	3
Payment	1	2	3	1	3
Corporate policies	4	4	3	3	4
Recruitment	1	2	2	0	2
Flexible work	1	2	2	0	2
Career development	1	2	2	0	2

Table 3: Linguistic labels of evaluation

Input	Mercadona	REPSOL	CEPSA	Telefónica	Endesa
Representation	Medium	Hard	Hard	Soft	Medium
Leadership	Medium	Medium	Medium-Hard	Medium-Hard	Medium-Hard
Society impact	Hard	Hard	Medium	Soft	Hard
Payment	Medium	Medium	Hard	Medium	Hard
Corporate policies	Hard	Hard	Medium-Hard	Medium-Hard	Hard
Recruitment	Medium	Hard	Hard	Soft	Hard
Flexible work	Medium	Hard	Hard	Soft	Hard
Career development	Medium	Medium	Medium	Soft	Medium

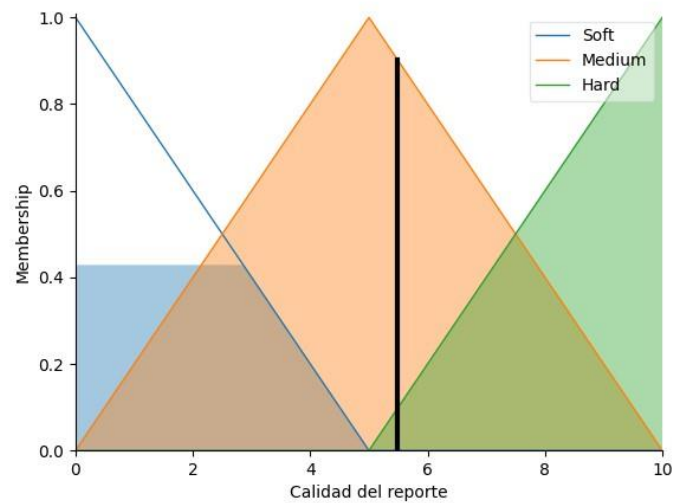
Figure 3: Mercadona's general evaluation

Figure 4: REPSOL's general evaluation

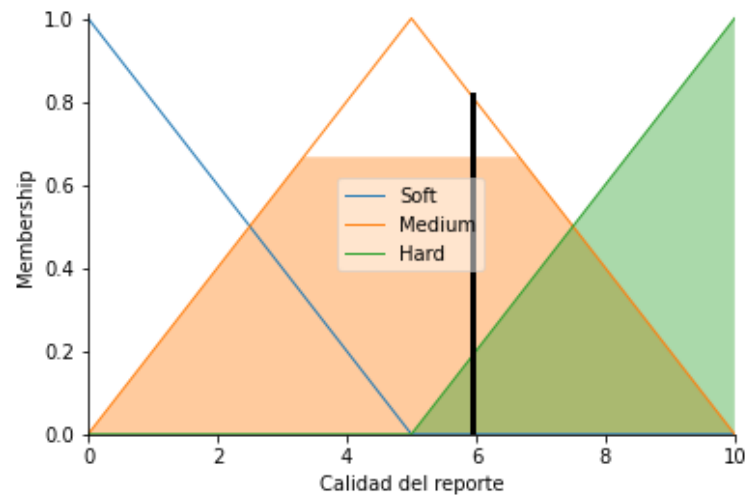


Figure 5: CEPSA's general evaluation

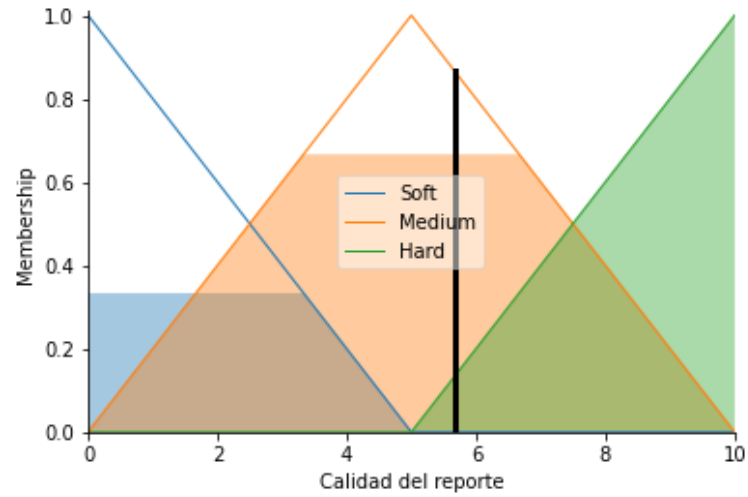


Figure 6: Telefonica's general evaluation

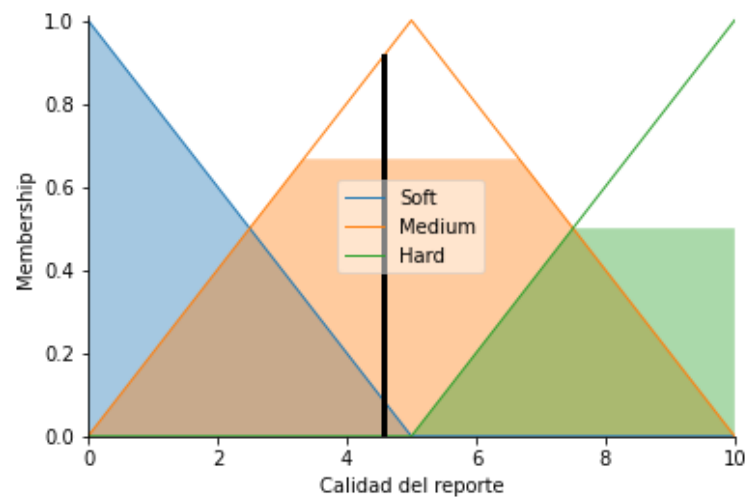
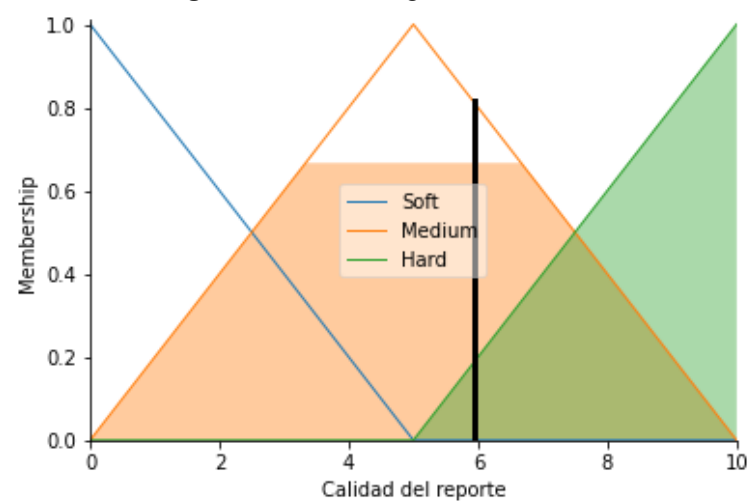


Figure 7: ENDESA’s general evaluation



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