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Disability inclusion in workplaces, firm performance, and reputation

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ABSTRACT

Despite the existence of laws on reserve quotas for people with disabilities (PwD), this group continues to experience high unemployment rates and social exclusion. This research has aimed to empirically analyze the influence of the hiring of PwD on the performance and reputation of the firm. We have carried out a quantitative study of European companies to highlight the value and benefits that these workers can bring, and thus overcome prejudices and stereotypes of employers that consider them problematic or unproductive. Our longitudinal research demonstrates that the hiring of PwD contributes positively to the performance and reputation of the firm, helping companies obtain competitive advantages and acting as a brand for the firm. This study gives rise to theoretical, managerial, practical, and political implications.

1. Introduction

People with disabilities (PwD) make up a diverse vulnerable group that suffers discrimination and faces great difficulties and barriers to integrating into society (Ameri et al., 2015; Green & Kirton, 2011; Schur, 2003; Schur et al., 2009). To achieve social integration, it is necessary to be economically independent, so it is essential for them to obtain a job that allows them to participate as active citizens (Kuznetsova, 2012; Kuznetsova & Yalcin, 2017).

From a legal perspective, The Convention on the Rights of Persons with Disabilities of the United Nations (UNCRPD, 2006 -art.4-(e), p. 6) established obligations for States “to take all appropriate measures to eliminate discrimination based on disability by any person, organization or private enterprise.” Likewise, art. 27.1 (UNCRPD, 2006, p. 19) recognizes “the right to the opportunity to gain a living by work freely chosen or accepted in a labor market and work environment that is open, inclusive and accessible to PwD.” Later, the European Disability Strategy 2010–2020 (EC, 2010) was established as a priority objective in terms of employment because it is aimed at significantly increasing the share of PwD in the open labor market.

Nevertheless, the regulatory measures adopted internally by European countries on reserve quotas and incentives have not been effective (Vall Castello, 2012; Waddington, 2005). Similarly, the American

anti-discrimination laws have been unable to achieve the established employment goals (Burkhauser et al., 2012). PwD continue to experience high unemployment rates, which are accentuated in times of crisis, experiencing a clear setback in their social and labor inclusion, and wasting their potential as a human resource (Adecco Foundation, 2021; Lindsay et al., 2018; Miethlich & Šlahor, 2018). The recent Strategy on the rights of PwD 2021–2030 (EC, 2021), recognizes that only 50.8% of PwD have employment compared to 75% of the population without disabilities, with 37.6% of PwD remaining inactive, compared to only 17.6% of people without disabilities. To ensure better employment outcomes for PwD, the European Commission urges the 28 EU member states (on the date these data were compiled, the UK was included. As of 02/2020, the UK left the EU and 27 member countries remained) to set various targets until 2024 to reduce the disparity in the indicated rates and achieve equitable employment by 2030.

Academic research can also help in this regard. Disability is less studied if we compare it with other types of diversity such as racial, ethnic, cultural, or gender (Ciavarella, 2017; Richard, 2000; Shore et al., 2009). An important part of the literature on disability in the workplace highlights the stigma and prejudices that surround this type of diversity (Abberley, 1987; Beatty et al., 2019; Deal, 2007; Goffman, 2009; Oliver, 2017; Ren et al., 2008; Rodríguez & Ferreira, 2010) due to issues such as low productivity discourse, associated costs for accommodations,

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absenteeism, etc. (Cavanagh et al., 2017; Jammaers et al., 2016). This leads to the reluctance of employers to hire these workers because of the negative influence that they can exert on the firm's performance.

Scant emerging literature focuses on highlighting the benefits of hiring, which can be economic and social. An example can be the improved profits (Hartnett et al., 2011) and increased business growth found by Kalargyrou and Volis (2014), or improved company image and corporate social responsibility through deaf workers in the business process outsourcing sector (Friedner, 2015). Employees with autism performed at an above-standard level with regards to attention to detail and work ethic (Scott et al., 2017). These investigations are usually qualitative, based on case studies, interviews, or surveys, among others, which have small analysis samples (Gröschl, 2013; Houtenville & Kalargyrou, 2015; Kim, 2016; Lindsay et al., 2018; Moore et al., 2022). We found a small number of quantitative empirical studies circumscribed to a single country and with limited samples, the results of which cannot be generalized (Ferreira & Rais, 2016; Oware & Mallikarjunappa, 2021).

Therefore, more quantitative research is needed to yield clear results that help understand the economic and social value of hiring these workers both for companies and society. Our research empirically analyzes the influence of the hiring of PwD on the performance and reputation of the firm, through a quantitative study of European companies.

The analysis carried out in this work allows us to make several contributions to the literature. First, regarding the theoretical contributions, according to the resource-based view (RBV) (Barney, 1991; Grant, 1991; Peteraf, 1993; Wernerfelt, 1984), our study considers PwD as a unique resource capable of generating value for the firm and society. Second, the theoretical combination presented (RBV and dynamic capabilities) allows a better understanding and structuring of the contribution that PwD make when they are included as a workforce in companies, achieving an orientation towards a culture based on inclusive values.

Third, this work also extends the previous contributions that only examined the diversity-corporate reputation relationship. Whetten (1989) argues that the reason research is conducted has important implications for the link between theory development and empirical research. The underlying economic and social dynamics justify the selection of factors and the proposed causal relationship. This work studies the specific dimension of disability in diversity, thus contemplating the social perspective, and the economic perspective (PwD-business performance). The study of the particular dimension of disability in diversity is important because each group at risk of social exclusion has unique characteristics and different peculiarities that make its analysis and exploration interesting.

Fourth, we extend previous work by considering a large data set of public companies present in all industrial sectors. This database includes companies that hire PwD and those that do not hire them, eliminating the possible selection bias that previous work based on data extracted from surveys and interviews may contain (Beatty et al., 2019; Brecher et al., 2006). In addition, the social desirability bias that interviews or surveys frequently suffer is not present in this study since we examine objective and secondary public data of the companies (Beatty et al., 2019). Previous studies on the positive impact of hiring people with disabilities were based on simulations, case studies, surveys and interviews with employers, focus groups, or other qualitative analysis methods (Gröschl, 2013; Houtenville & Kalargyrou, 2015; Lindsay et al., 2018). Our research has been conducted using a quantitative methodology which aims to obtain more solid and generalizable conclusions. It helps to highlight in a practical way PwD as workers who also add value to the firm's performance and reputation. This contribution is especially useful both for employers interested only in the company's economic results, and for employers who are interested in inclusive and social issues.

Finally, our analysis is longitudinal since we use data from European companies from the period 2007 to 2018, while previous works analyze

much shorter periods or cross-sectional data obtaining a smaller number of observations (Beatty et al., 2019). Longitudinal analysis is useful to observe the causal relationships considered in this study over time.

2. Theoretical framework and hypotheses

2.1. Disability inclusion in workplaces

According to Mor Barak (2014):

“Workforce diversity refers to the division of the workforce into distinction categories that (a) have a perceived commonality within a given cultural or national context, and that (b) impact potentially harmful or beneficial employment outcomes such as job opportunities, treatment in the workplace, and promotion prospects—irrespective of job-related skills and qualifications (p.150)”

Organizational diversity represents different and diverse human resources. Its management presents a barrier that must be addressed if all talents are to be recognized, developed, and used for the benefit of individuals and organizations (Point & Singh, 2003). PwD are untapped human resources (Lengnick-Hall et al., 2008) and like other types of diversity (gender, race, age, etc.), recognition of their value as a resource for the organization can create a competitive advantage (Point & Singh, 2003).

The approaches used to define disability have evolved (Huete García, 2012). The traditional approach considered it as something negative for the person, a deficiency related to mystic elements. Next, a neutral approach focused on the scientific-medical issue of deficient physiology that limits the person to perform tasks and from which they must be rehabilitated (Huete García, 2012). A current approach related to the social model (Rodríguez & Ferreira, 2010) considers disability as a social construct. The individual with a disability is someone stigmatized because they are different from the concept of normality and perfection created by the social environment (Goffman, 2009). According to Oliver (2017), disability faces social, economic, and cultural limitations that end up leading the individual to social exclusion, giving rise to stereotypical oppression (Abberley, 1987). Disability is considered as one type of diversity (Point & Singh, 2003; Shore et al., 2009), even though this group of people is heterogeneous in itself (several types of disability, different environments, etc.) (Beatty et al., 2019) when it is compared to other diverse minorities such as race or gender (Ciavarella, 2017; Richard et al., 2007). Concerning the heterogeneity of PwD in Spain, the term “functional diversity” has been created to correspond to a reality in which a person functions in a different or diverse way from most of society. This term takes into consideration the person's differences and the lack of respect of majorities who fail to consider this functional diversity in their social and environmental constructive processes. (Romañach & Lobato, 2005). To unify the concept worldwide, the World Health Organization (WHO, 2021) explains disability as “a complex phenomenon that reflects an interaction between features of a person's body and features of the society in which he or she lives.”

To highlight the value of this group of workers, in this research we will always interchangeably use the terms “people with disability,” “workers/employees with disability,” or “individuals with disability.” Our study focuses on the value of PwD as people and capable human resource. We want to avoid social stereotypes. Therefore, we adopt a neutral approach to define “disability” as “the product of the interaction of the individual's health condition with their personal factors (gender, age, and type of disability) and their contextual factors (obstacles, barriers in participation, employment, and accessibility),” considering that in workplaces these personal and contextual factors clearly interrelate with each other (Jurado-Caraballo et al., 2022, p. 382).

Most of the literature offers a negative view of disability in workplaces (Danzon, 1993; Lindsay et al., 2019; Ren et al., 2008; Stone & Colella, 1996). However, some recent studies seem to be heading in a positive direction to change the stereotypical view of PwD, describing

inclusive practices (Moore et al., 2020a, 2020b, 2022) or improving the image of the company with its disclosure (Khan et al., 2019). Some of these investigations highlight the value and benefits that the hiring of PwD can bring to organizations and its value as an organizational strategy (Köseoglu et al., 2021).

To highlight some of the benefits resulting from hiring PwD, it is important to assess the impact of disability on companies, addressing it from an economic and social point of view. For this reason, its economic effect on the dimension of the firm's performance and the social repercussion on the dimension of corporate reputation will be analyzed.

2.2. Disability inclusion and firm performance

Negative attitudes towards PwD are frequently used to impede their hiring, such as absenteeism (Cavanagh et al., 2017), accommodation costs (Ameri et al., 2015), or their low productivity (Jammaers et al., 2016), which could have a negative impact on firm performance. While there is abundant literature that analyzes how other types of diversity influence the performance of the firm, such as cultural, racial, gender, ethnic, or work-team diversity (Ciavarella, 2017; Herring, 2009; McMahon, 2010; Richard, 2000; Roberson & Park, 2007), we find little quantitative empirical evidence on the relationship between disability and firm performance.

However, some benefits are recognized when hiring PwD, based on simulations, case studies, surveys and interviews with employers, focus groups, or other qualitative methods of analysis (Gröschl, 2013; Houtenville & Kalargyrou, 2015; Lindsay et al., 2018). Research indicates that a well-managed diverse workforce leads to potential competitive advantages for organizations (Abramovic & Traavik, 2017; Singh & Point, 2004). The idea is that the introduction of diverse points of view offers a broader and richer base of experience to problem-solving and decision-making processes (Cox & Blake, 1991; Prieto et al., 2009). For the analysis of diversity and performance, different indicators such as EBITDA, ROA, ROE, profitability or Tobin's Q were used, with different results (Ciavarella, 2017; Ditomaso et al., 2007; Ferreira & Rais, 2016; Herring, 2009).

The disability-firm performance relationship through quantitative methods has been underexplored. Bird and Knopf (2010) examined whether disability laws impair firm performance. Their results were not statistically significant, although they concluded that "a decline in ROA may be associated with disability laws, but the effect may not be discoverable through empirical testing (p. 187)." Kim (2016) developed a tool enabling appraisal of the management performance that has been produced through the employment of PwD using the case analysis. A study examined the influence of PwD on the productivity of a small sample of Brazilian companies, considering that a firm's productivity is its total revenue divided by the total number of employees, and only two years analyzed. The work did not offer conclusive results (neither a positive nor negative relationship), although an increase in the productivity of the companies who participated in social actions (Ferreira & Rais, 2016) was observed. More recently, another analysis of a sample of Indian companies provided empirical evidence that the service sector contributes more to financial performance when PwD is combined with technological innovation. It is an example of workplace accommodations as assistive technology makes work easy for workers with disabilities (Oware & Mallikarjunappa, 2021).

We analyze the relationship between hiring PwD with firm performance following the RBV (Barney, 1991; Grant, 1991; Peteraf, 1993; Wernerfelt, 1984), which considers the workers of a company as one of the most important assets (Richard, 2000; Scheuer & Thaler, 2022; Wright et al., 2001). Effective management of human resources can be a means of gaining a competitive advantage in the market against other companies, especially since human capital is an organizational intangible that encompasses skills, experience, and the knowledge of workers, who provide economic value to companies (Barney, 1991; Coff & Kryscynski, 2011; Miethlich & Šlahor, 2018; Richard, 2000).

Disability strategy is difficult to replicate due to its heterogeneity. Although many companies could adopt this inclusive strategy, each group of workers will be different by their different types and grades of disability and, consequently, the strategy will be as well. The interaction of the individual's health condition, their personal and contextual factors (type of disability, gender, age) (Jurado-Caraballo et al., 2022), with the environment, and the features of each company (location, sector, size) will contribute to its rarity as a resource, also making it non-substitutable, since human resources are not transferable between organizations, benefiting only the organization in which those relationships are developed (Richard, 2000). This issue would be supported by the study of micro-foundations within the RBV framework, which seeks explanations of the heterogeneity of firms based on the differences between individuals (Coff & Kryscynski, 2011; Molina-Azorín, 2014).

In addition to considering RBV to analyze individual differences at the micro level to obtain resources, we contemplate the macro approach of dynamic capabilities, understood as the development of organizational competencies or skills that will allow the company to develop internal and external dynamic activity (Scheuer & Thaler, 2022; Teece et al., 2009).

Based on dynamic capabilities, we have identified the "capability development" approach that supports our research. It refers to the organizational ability to achieve new forms of competitive advantage (Teece et al., 1997). The company is considered as a set of resources and capabilities, whose strategy will consist of obtaining resources and developing key capabilities that allow the firm to implement value-creation strategies. A small cost will be applied, and, in exchange, a large contribution will be made to said value creation (Makadok, 2001). The employer who hires PwD can assume a small accommodation cost for the development of labor tasks. Later, this can bring greater benefits than the cost of accommodation for these workers. To successfully take advantage of the capabilities of PwD, sometimes it will only be necessary to make minor changes without associated economic cost, such as some adaptations of the physical space, changes in work tasks, or, simply, varying the labor schedule (Bento & Kuznetsova, 2018; Conza & Juric, 2013, pp. 101–111). The modifications made will be conceived not as a cost, but as an investment that the company will make to renew its stock of capabilities (Winter, 2003) and create greater value compared to those companies that do not hire PwD (Kalargyrou, 2014). In short, the advantages of hiring PwD outweigh its cost (Kendall & Karns, 2018).

In part, higher performance will be obtained by the benefits derived from their hiring. Research indicates that workers with diverse types of disabilities (e.g., autism, hearing impairments) have skills that are necessary for today's changing environments, such as creativity, which helps create new business processes or innovative services in the hospitality industry and distribution centers (Lindsay et al., 2018; Moore et al., 2022). In addition, people with visual disabilities helped to improve sales in non-profit companies (Wolffe & Candela, 2002). Kalargyrou and Volis (2014) found that, in the hospitality industry, workers with disabilities of several types not specified improved profits and increased business growth. A longitudinal study of the hospitality industry reported that PwD (with cognitive impairments) helped to increase profits (Zivolich & Weiner-Zivolich, 1997). Cimera and Burgess (2011) presented an analysis of workers with autism spectrum disorder, and they indicated that these individuals working in their community generated more monetary benefits than monetary costs, with an excellent average benefit-cost ratio. Owen et al. (2015) found that people with developmental disabilities presented a greater social return on investment in training and development. Some authors claimed that PwD (different types of disability not specified in the studies) gather a series of attributes such as loyalty, gratitude, higher motivation, engagement with the organization, higher productivity, high job satisfaction leading to lower turnover rates, absenteeism, as well as a greater willingness to experiment (Aichner, 2021; Hernandez et al., 2008; Kalargyrou, 2014).

These capabilities of the PwD will be added to the rest of the competencies that the company already has, forming part of its organizational capital, adopting a continuous integration, reconfiguration, renewal, and recreation of its resources and capabilities (Wang & Ahmed, 2007). The configuration of this complex mixture of resources and heterogeneous dynamic capabilities will keep the sustainability of competitive advantage over time (Eisenhardt & Martin, 2000; Makadok, 2001; Teece, 2007; Teece et al., 1997; Winter, 2003).

We propose the combined use of RBV, and the dynamic capabilities approach, to consider people with disabilities as a valuable human resource at the individual level (micro-approach; micro-foundations) (Barney & Felin, 2013), and through the combination of their dynamic capabilities at the company level (macro approach). Hiring PwD would lead to an improved competitive advantage, achieved through the change in organizational culture with the disability inclusion strategy, producing an improvement in firm performance (Kalargyrou, 2014; Moore et al., 2022; Rosenbaum et al., 2017).

Following the previous reasoning, we propose the first hypothesis.

H1. Companies that employ more people with disabilities report higher financial performance than companies that do not.

2.3. Disability inclusion and reputation

In addition to the positive effects on economic outcomes, hiring PwD may produce social benefits for companies, society, and individuals with disabilities themselves (Kalargyrou, 2014; McMillan-Capehart et al., 2010). The inclusion of PwD allows the development of a complex construct of social legitimation, such as corporate reputation. This is defined as the collective representation of actions and outcomes of the past and present of the organization, which describes its capability to obtain valuable outcomes for different stakeholders (De Castro et al., 2006).

Corporate reputation (CR) is also considered a solution for asymmetric information about companies. When faced with a lack of information about a product or about a company's initiative, stakeholders rely on the reputation of the company to judge its products or its intentions (Schnietz & Epstein, 2005). According to Roberson and Park (2007), corporate social reputation is multidimensional and is made up of values, ethics, and social performance.

Following the RVB framework (Barney, 1991; Grant, 1991; Peteraf, 1993), the employment of PwD constitutes a resource based on a strategy of ethical and responsible hiring practices. Hiring PwD helps firms to generate a sustainable competitive advantage and value in the market, the results of which can be translated into benefits of all kinds, including the creation of a positive and lasting reputation for the company (Fombrun et al., 2000; Kalargyrou, 2014; Rosenbaum et al., 2017). The human capital formed by PwD is configured as an effective resource due to the addition of their dynamic capabilities to the organizational capital of the company (Barreto, 2010; Eisenhardt & Martin, 2000). Some authors highlight that the employment of PwD offer a competitive advantage to firms in the form of a source of skilled and loyal employees (Barney, 1991; Gröschl, 2005; Houtenville & Kalargyrou, 2015).

PwD of diverse types (people with cancer, mental illnesses, brain injuries, paraplegia, AIDS, or musculoskeletal disorders) are highly motivated and trained to perform functions in companies (Aichner, 2021). Their motivation responds more to social than economic impulses since they consider themselves integrated and participants in social life (Marti et al., 2012). This higher level of motivation leads to better quality, friendlier dealings with customers, and greater loyalty towards their employer (Aichner, 2021).

It has been proven that people with intellectual disabilities (such as Asperger syndrome) tend to perform repetitive tasks very efficiently, due to their extraordinary analytical mind, ability to concentrate, precision, and quick understanding, which makes them ideal workers for companies that work with information technologies. To take advantage

of their talents in a productive way, they need companies to act with a high degree of planning, with low-stimulus environments and minimal stress (Conza & Juric, 2013, pp. 101–111). The previous research is an example that shows that each firm that includes PwD in its workforce will enhance its capabilities to compete with a differentiated and improved advantage due to the combination of its resources and capabilities at the individual level (micro-foundations (Coff & Kryscynski, 2011; Molina-Azorin, 2014) and at the company level (Barney & Felin, 2013). A strategy of commitment to diversity inclusion and specifically to PwD inclusion may lead to a good reputation. Davidson and Ferdman (2001) sustain that the key driver to create inclusion is engaging with difference.

Companies that incorporate these practices develop an inclusive culture of diversity and disability (Lindsay et al., 2018; Moore et al., 2020a, 2020b, 2022; Schur et al., 2009; Waxman, 2017). Their reputation will have been built on multiple reasons, such as the ability to adapt through their dynamic capabilities (Wang & Ahmed, 2007), the improvement of their corporate image (Lindsay et al., 2018), and the optimization of the capability of recruiting and hiring (Schnietz & Epstein, 2005), among others.

Organizations try to accumulate more reputational assets by promoting and reporting their activities on diversity, and specifically on disability through their websites or by participating in rankings that disclose such actions (Khan et al., 2019). It is an attempt to build and manage their own favorable reputation by positioning themselves as “highly engaged to diversity,” with the qualification of an external entity to attract the attention of stakeholders (O'Connor, 2001; Waymer & Vanslette, 2013). Those companies that disclose their inclusive hiring practices will be projecting this image to society and their potential investors, building the “social reputation” dimension (De Castro et al., 2006). The competitive advantage built is a long-term competence that may generate confidence in its workforce and the rest of the stakeholders (O'Connor, 2001). For instance, reputation based on disability inclusion may attract a growing target segment of customers with disabilities (according to WHO (2021), 15% of the world's population). This group of customers may be attracted by firms oriented to social inclusion since they have the knowledge and understanding to provide them with products or services that fit their needs (Aichner, 2021).

Some studies highlight that the employment of PwD contributes to projecting a positive brand image of the firm, with social distinction, the appearance of social sustainability, and a reputation for corporate citizenship (Jasper & Waldhart, 2012; Kalargyrou & Volis, 2014; Lindsay et al., 2018; Miethlich & Šlahor, 2018). To maintain the reputation, the employer should implement initiatives such as employee accommodation and create a valuable working environment based on the health and welfare of employees (Hartnett et al., 2011). A case study on corporate governance regulations in Australia specifically recommends hiring PwD “to enhance an organization brand and reputation” (Williams, 2017, p. 212). In management practices, employers recognized that a responsible social reputation has a positive influence on business success (Miethlich & Šlahor, 2018).

We found some studies of the relationship between corporate reputation and the inclusion of a diverse workforce in general with contradictory results (Point & Singh, 2003). A positive relationship between reputation regarding racial diversity and performance was examined; the study found that company performance declines with an increasing representation of racial minorities in leadership (Roberson & Park, 2007). The reputation for diversity of 50 companies and its impact on the valuation of the stock market over a 25-year period were also explored. A positive relationship was found between the firm reputation and the inclusion of diversity, although the market reaction is more positive for the manufacturing sector than the services sector (McMillan-Capehart et al., 2010). Specific research on disability-corporate reputation focuses on pointing out that reputation can benefit from hiring PwD (Lindsay et al., 2018).

With the integrated approach of the RBV, dynamic capabilities, and

the previous arguments, we propose the following hypothesis.

H2. Companies that employ more people with disabilities report a higher reputation than companies that do not.

3. Research methods

3.1. Sample and data selection

The research setting for this study is a panel data set of European public companies for the period 2007–2018. The European context is a suitable empirical setting. The European Strategy on Disability 2010–2020 (EC, 2010) established eight areas of joint action. One of them states the necessity of ensuring an increase in the number of disabled workers in the labor market of the European countries. This regulation was based on the UNCRPD (2006 -art.4-(e), p. 6) “to eliminate discrimination on the basis of disability by any person, organization or private enterprise.” Therefore, we chose to collect data from companies from 2007 (the following year to UNCRPD 2006) to observe their inclusive behavior on PwD, while 2018 is the last year available in the database at the time of its collection.

This panel was drawn from the Thomson Reuters Eikon ESG (environmental, social, and governance), considered the world’s largest database of environmental, social, and governance ratings. The ESG database is made up of objective quantitative and qualitative, auditable, relevant, and systematic data at the company level on global public companies over several years. It is an excellent source of data for conducting longitudinal studies. It has trained analysts who collect the world’s largest ESG content. More than 450 ESG metrics are carefully processed by each company to standardize the information and ensure that it is comparable across the range of companies. The information comes from various sources (annual reports, company websites, nongovernmental organization websites, stock market presentations, corporate social responsibility (CSR) reports, news sources, etc.), publicly available to provide up-to-date, objective, and complete coverage. This standardized information allows the calculation of ESG scores, which are a transparent evaluation that integrates and considers the importance of the industry and the biases of the size of the company. The Refinitiv ESG Score measures the company’s ESG performance, commitment, and effectiveness in ten categories that form the scores of the three environmental, social, and governance pillars (Refinitiv, 2021). In our research, we will use the social pillar score for our dependent variable CR. Previous studies established the validity and reliability of this database (García et al., 2017; Quintana-García et al.,

2021).

The sample presents a population of 1745 European companies from all productive sectors. The data provided by Refinitiv regarding the type of industry corresponds to the North American Industry Classification System detailed by subsectors, which have been grouped into four sectors (primary, secondary, tertiary, and quaternary) following the Kenessey classification (1987). The representation of each sector in the sample is 5% for the primary sector (agriculture, forestry, fishing, mining), 39% for the secondary (construction and manufacturing), 14% for the tertiary (transportation, electric, gas and sanitary services; wholesale trade; retail trade), and 42% for the quaternary (finance, insurance, real estate, services, public administration). In the database, we identified a total of 306 companies with available information on the percentage of employees with disabilities hired, the main independent variable in this analysis. As complementary information on the sample, we add that among the 306 firms that reported information on hired workers with disabilities, 1.96% of the companies reported that they did not have PwD in their workforce (PwD = 0) and the rest, up to 306, reported the percentage of PwD (PwD>0) that they had contracted. Therefore, as the total sample is made up of a total of 1745 companies, we identified 1439 firms that did not report information on workers with disabilities (1439 + 306 = 1745 firms). This does not mean that these 1439 companies do not hire PwD. This information is not available in the database. Information has also been collected to control the strategic dimensions and attributes of the companies. Considering the limitations of data availability, the final sample is an unbalanced panel with variation in the number of companies and observations according to the models specified in Tables 2 and 3.

The sample includes companies located in 33 countries, some of which are members of the European Union and others are not. The most represented EU member countries are the United Kingdom (25.33%), Germany (10.09%), and France (8.71%). Among the most represented countries that do not belong to the EU, we find Switzerland (7.68%), and Norway (3.04%).

3.2. Measurements

3.2.1. Dependent variables

We have two dependent variables: firm performance and corporate reputation. The “firm performance” variable is continuous numerical and corresponds to the EBITDA (earnings before interest, taxes, depreciation, and amortization) of each company. EBITDA is an indicator that is usually used in business performance analysis (Anderson & Reeb, 2003; Ciavarella, 2017; Quintana-García et al., 2021). As a performance

Table 1
Means, standard deviations, and correlations.

Variables	Mean	Std Dev	1	2	3	4	5	6	7	8	9	10	11
Firm performance	1.41e+09	4.17e+09	1.000										
Corporate reputation	58.86	20.84	0.313 **	1.000									
2sector	0.39	0.49	-0.006	0.083 **	1.000								
3sector	0.14	0.35	0.020*	0.021 *	-0.327 **	1.000							
4sector	0.42	0.49	-0.025 **	-0.072 **	-0.675 **	-0.347 **	1.000						
European Union	0.85	0.36	-0.023*	0.104 **	-0.008	0.026 **	0.037 **	1.000					
Firm size	22115.59	54631.02	0.516 **	0.308 **	-0.007	0.094**	-0.047 **	0.012	1.000				
CSR strategy	56.98	17.21	0.349 **	0.876 **	0.045 **	0.010	-0.033 **	0.103 **	0.316 **	1.000			
Employees with disabilities	0.03	0.02	0.120 **	0.123 **	0.062 *	0.157 **	-0.193 **	0.063*	0.171 **	0.044	1.000		
Diversity strategy	55.09	8.08	0.334 **	0.521 **	0.089*	0.056	-0.079*	0.036	0.295 **	0.514 **	0.130 *	1.000	
Disability inclusion strategy	19.51	21.53	0.357 **	0.508 **	-0.011	0.054*	0.004	0.097 **	0.266 **	0.480 **	0.269 **	0.733 **	1.000

Significant **p < 0.001; *p < 0.05.

Table 2

GEE results on firm performance and corporate reputation.

	Firm performance		Corporate reputation	
	Model 1		Model 2	
Employees with disabilities	1.91e+10*	(6.34e+09)	65.26232***	(11.61913)
CSR strategy	9.55e+07***	(9977269)	0.9747212***	(0.0182945)
2sector	1.60e+07	(6.89e+08)	1.602923	(1.264251)
3sector	-5.23e+08	(7.10e+08)	0.224702	(1.303143)
4sector	9.78e+08	(6.86e+08)	-0.210745	(1.25904)
European Union	1.25e+09	(8.49e+08)	0.3248558	(1.558193)
Firm size	35446.76***	(1692.124)	-3.59e-07	(3.10e-06)
Annual dummies 12 years			5 years*	
Constant	-5.47 + 09***	(1.53e+09)	-0.397681	(2.802488)
N firm-year observed.	1615		1619	
Wald Chi2	807.07		3244.07	

Standard errors are in parentheses.

The variable “annual dummies” indicates the total number of years which coefficients are statistically significant.

***p < 0.001. **p < 0.01. *p < 0.05.

Table 3

GEE Results on Firm Performance and Corporate Reputation. Robustness checks.

	Firm performance		Corporate reputation					
	Model 3	Model 4	Model 5	Model 6				
Diversity strategy	9.11e+07***	(1.98e+07)		0.2615314***	(0.0447226)			
Disability inclusion strategy			3.34e+07***	(4350405)		0.1055137***	(0.0118641)	
CSR strategy	5.53e+07***	(1.12e+07)	4.16e+07***	(5616032)	0.8419169***	(0.0254325)	0.9341819***	(0.0153141)
2sector	-1.33e+09	(7.50e+08)	-1.48e+09***	(4.09e+08)	3.327002*	(1.696413)	2.081548	(1.114465)
3sector	-2.46e+09*	(7.83e+08)	-2.19e+09***	(4.35e+08)	1.673363	(1.772882)	0.0377683	(1.185984)
4sector	-1.47e+09*	(7.46e+08)	-1.54e+09***	(4.07e+08)	1.301641	(1.688194)	-0.1642142	(1.109621)
European Union	-5.43e+08	(4.81e+08)	-7.49e+08*	(82.46e+08)	1.582393	(1.087566)	2.122189*	(0.6712464)
Firm size	31455.82***	(1936.943)	32750.38***	(1336,396)	-0.0000101	(4.38e-06)	5.39e-06	(3.64e-06)
Year dummies	Included		Included		Included		Included	
Constant	-5.45e+09***	(1.20e+09)	-5.84e+07	(5.07e+08)	-3.819468	(2.716683)	1.66418	(1.381459)
N firm-year observed.	910		1927		910		1928	
Wald Chi2	522.97		1201.36		2002.65		6308.25	

Standard errors are in parentheses.

***p < 0.001. **p < 0.01. *p < 0.05.

measure it provides easy understanding, interpretability, and easy comparison of the firms (Viswam, 2018). The database used contained other performance measures that have not been included in the analysis due to the high number of missing values, reaching approximately 50% fewer observations than EBITDA. Since this issue could be a problem for the accuracy and inference of the results of the analysis (Badler et al., 2004), we decided to include this variable in order to provide better estimates.

The other dependent variable is “corporate reputation” measured through the social pillar score reported by the ESG database and used in other investigations (Quintana-García et al., 2021). This ESG score (range, 0–100) has adopted a percentile rank scoring methodology to calculate the category scores (based on rank, these are not sensitive to outliers). This methodology considers three key factors: companies are worse than the current one, companies have the same value, and companies have a value at all (Refinitiv, 2021). The calculation of the score is based on a total of 62 indicators related to workforce, human rights, and community and product responsibility. The social pillar score is defined by the database as “a company’s capability to generate trust and loyalty with its workforce, customers, and society, through its use of best management practices. It reflects the company’s reputation and the health of its license to operate, which are key factors in determining its ability to generate long term shareholder value.” This score contains the internal and external views of different stakeholders. This is consistent with the argument that reputation is based on the aggregate perception of both internal and external stakeholders that contribute to the sustainability of the firm (Walker, 2010).

3.2.2. Independent variable

Our independent variable is “employees with disability” and is measured by the percentage of workers with disabilities that the company has among the total of full-time employees. This measure has been used in previous studies (Ferreira & Rais, 2016). The database does not distinguish between gender or the type of disability. Therefore, the results of the analysis globally determine the influence of these workers on firm performance and corporate reputation.

3.2.3. Control variables

Our model includes several control variables and attributes of the firm that can influence both the firm’s performance and corporate reputation. The main variable is “CSR strategy,” measured through the ESG score of Refinitiv database that reflects the integration of good practices of companies on the three dimensions of CSR (environmental, social, and governance). Social responsibility creates simultaneous value for both the company and society (Rodríguez-Fernandez, 2016), contributing to a better, more humane and sustainable world (McWilliams & Siegel, 2011). Employee relations are considered within the spectrum of the CSR concept. Therefore, this management model constitutes a comprehensive support framework within which to frame disability inclusion initiatives, favoring their consolidation and effective implementation. Indeed, the renewed EU Strategy 2011–2014 on CSR suggests that PwD integration is part of the CSR agenda, and companies are encouraged to work for its implementation (EC, 2011).

Given that the business sector is in a unique position to actively promote the rights of people with disabilities (Khan et al., 2019), three dichotomous variables have been included for the industrial sectors to which each company belongs to (2sector secondary, 3sector tertiary,

and 4sector quaternary), taking a value of 1 if the company belongs to that sector and 0 if it does not. The companies in the sample are located in 33 European countries. In line with the European Disability Strategy (EC 2010), a dichotomous dummy variable has been created to specify membership in the European Union, taking a value of 1 if the country is a member and a value of 0 if it is not.

Several studies highlight the importance of the socio-political context of all the countries in the world when trying to increase the numbers of PwD hiring through anti-discrimination laws and implementation of hiring quotas, which are different depending on the size of the firm (Kalargyrou et al., 2021; Khan et al., 2019). It is important to note that in 2014 the European Parliament and Council (European Parliament and Council, 2014) introduced directive 2014/95/EU on the disclosure of non-financial information and diversity by large companies to improve the transparency of 6000 entities with more than 500 employees (Khan et al., 2019). To control for firm size, we have used the variable that collects the number of full-time equivalent employees.

Finally, a dummy variable has also been included for each year of the study to control for those factors that are the same for all cross-sectional units but with variation over time, such as economic magnitudes.

3.3. Descriptive analysis and method

Table 1 shows the descriptive statistics (mean, standard deviations) and bivariate correlations of the variables of our study. The independent variable “employees with disability” shows an average of 3% with respect to the total number of full-time employees. The mean number of employees (firm size) is 22,115.59, which means that the sample includes mainly large companies with 64.5% of the total and the rest of the sample are small and medium-sized companies.

Table 1 provides the bivariate correlations between the variables. Although there are significant correlations, once the regressions were made, the corresponding collinearity diagnoses were made. Results allow us to assert that multicollinearity is not a significant concern. According to the regression collinearity diagnostic procedures found in Belsley et al. (2005), which examines the “conditioning” of the matrix of independent variables, collinearity problems may exist if the largest condition index (the condition number) is large. Belsley et al. (2005) suggest 30 or higher (Hendrickx & Hendrickx, 2019). All our results are below 30. The size of the sample (number of observations in models 1 to 6) is large, contributing to the reduction of the standard errors.

To test the relationship between PwD hiring and the variables of firm performance and corporate reputation, we chose to apply the generalized estimation equations (GEE) instead of the OLS method. The reason for this choice responds to the characteristics of the data to be analyzed. Our data are longitudinal, which are repeated observations of a response variable, collected at different instants of time from the same firm. In our case, the data for each company in the sample are collected annually, assuming the correlation between records within the same group (2007–2018). This correlation between the measures of each company must be considered to perform a correct analysis of variance. The linear model does not take this correlation into account, so the variance of the estimators would not be correct and erroneous conclusions can be drawn regarding statistical significance.

The GEE approach was developed by Liang and Zeger (1986) to model the marginal or population expectation, incorporating the correlation between the observations of the same individual (of each company in our case) and assuming the independence between individuals. These equations work best when the number of observations per subject is small, and the number of subjects is large. Moreover, they must be applied in longitudinal studies and the measurements must be obtained at the same instant of time for all subjects. These premises are fulfilled in the case of our data, so this method is the most suitable for estimating the regression. GEE models are quite flexible. To make a good estimate, they only need a transformation or “link” function (in our case “identity”), a variance function (we have specified “gaussian”), and a

correlation structure (we have used “independent”) (Ballinger, 2004). The previous specifications are chosen to model the equation in an analogous way to the OLS method, but thanks to its iterative process the drawbacks are eliminated, allowing a valid inference of the parameters obtained. An important trait to highlight regarding the GEE approach is that the parameter estimates obtained through the application of these models are robust even to the misspecification of those correlations. Furthermore, this method is less computationally intensive than fixed or random effects and it often proves less subject to instability and convergence problems (Zorn, 2001).

We have run the GEE algorithm with the statistical software package of STATA 14.1 Special Edition.

4. Results

Table 2 offers the empirical results of the regressions carried out by the GEE method that examines how the hiring of PwD influences firm performance and corporate reputation, which corresponds to the main objective of our study. These two dependent variables are specified in Table 2, each with the results obtained by entering the control variables and the independent variable into each equation (Models 1 and 2), providing the variance represented by the hiring of PwD.

Many previous studies have identified a positive association between CSR and performance (Saeidi et al., 2015). The estimators obtained are consistent with the RBV approach by postulating that specialized capabilities related to investing in CSR can generate economic benefits for companies (Hart, 1995; Hart & Dowell, 2011; McWilliams & Siegel, 2011; Russo & Fouts, 1997). CSR would be justified as an investment in capabilities that will allow the company to differentiate itself from its competitors and improve organizational performance (Frynas & Yamahaki, 2016). These capabilities include the management of stakeholders (including their workers and strategic proactivity (Torugsa et al., 2012). We can see that in Model 1 (Table 2), our main control variable, CSR strategy, is significant and positive ($\beta = 9.55e + 07$) Therefore, we confirm that the CSR practices of the companies in the sample have a positive impact on firm performance.

To test our first hypothesis, in addition to including the control variables, we introduce the independent variable (Employees with disability) (Model 1-Table 2). Our independent variable is significant and positive ($\beta = 1.91e + 10$; $p < 0.05$). The result is consistent with the first hypothesis formulated, that is, labor inclusion of PwD in the organization of PwD exerts a positive influence on the firm performance.

The relationship between hiring of PwD and CR is analyzed in Model 2. Corporate reputation is a consequence of a variety of organizational practices and behaviors. A commitment to CSR (multidimensional construct) is the most effective of these practices to build a sustainable competitive advantage. Therefore, a good corporate reputation would be, to a considerable extent, the result of participation in CSR (Melo & Garrido-Morgado, 2012). In Model 2, the control variables are incorporated. We can observe that CSR is significant and positive ($\beta = 1.036648$; $p < 0.001$).

Likewise, in Model 2, we incorporate the employees with variable disability. The coefficient of employees with disability is significant and positive ($\beta = 65.26232$; $p < 0.001$). This result supports hypothesis 2, that is, hiring PwD is positively related to corporate reputation. Confirmation of this hypothesis is consistent with research suggesting that organizations can benefit from a positive human resource reputation, based on managing their diversity that helps to gain recognition from stakeholders (McMillan-Capehart et al., 2010). As Helm (2007, p. 24, p.24) affirms, “corporate reputation serves not only as a performance signal but can also become a choice criterion as investors are not exclusively interested in high dividends or share appreciation.”

The results obtained in our empirical study show that hiring PwD not only positively influences business performance, but also positively influences corporate reputation. Firms could use the employment of PwD as a “brand-building strategy” (Köseoglu et al., 2021).

Finally, the Wald Chi2 test in Table 2 demonstrates that all the variables in the estimation are different from each other and different from zero, according to the estimates of Stata software (Ballinger, 2004).

4.1. Robustness checks

To verify the robustness of our results, two alternative measures of the main independent variable have been used: “diversity strategy” and “disability inclusion strategy.” The results are shown in Table 3, Models 3 to 6. “Diversity strategy” is based on the Refinitiv ESG Database Index that objectively rates from 0 to 100 the inclusiveness of workplaces. According to Refinitiv (2021), such a variable is measured as “a company’s effectiveness in terms of providing job satisfaction, a healthy and safe workplace, maintaining diversity and equal opportunities and development opportunities for its workforce.” This index ranks over 9000 companies globally and identifies the publicly traded companies with the most diverse and inclusive workplaces, as measured by 24 separate metrics across four key pillars.

For the variable “disability inclusion strategy” the score from 0 to 100 has been used, which specifically measures the inclusion of disability in organizations and is also provided by the Refinitiv ESG database. Specifically, it measures the commitment and effectiveness of a company regarding the maintenance of corporate equality, effective work-life balance and the inclusion of employees with disabilities.

The independent variable “employees with a disability” was replaced by the variables “diversity strategy” (Model 3) and “disability inclusion strategy” (Model 4) to explore how the results on the firm performance could vary, executing the same GEE method used previously. The data availability for the two independent variables was for the years 2017 and 2018. The analysis had a different number of observations for each independent variable (910 observations in Model 3, 1927 observations in Model 4). The results of the sensitivity test were similar to those of Table 2, being consistent with the findings of this study on the positive influence of the inclusion of disability on a firm’s performance. This initiative of labor inclusion configures itself as a valid sustainable competitive strategy to include in the practices of CSR. This strategy will be difficult to imitate by its competitors since each selection of employees with disabilities will be unique in terms of their abilities and skills.

In the case of the dependent variable “corporate reputation” (“diversity strategy,” $N = 910$ in Model 5; “Disability inclusion strategy,” $N = 1928$ in Model 6), the results confirm the robustness of the analysis shown in Table 2. The two alternative dependent variables are significant and positive. The control variable “CSR strategy” is also positive and significant, showing that it favors a firm’s corporate reputation. This strategy can be used as a hallmark in the financial market that can attract investment from shareholders aware of social issues.

5. Discussion and conclusion

This research has served to address an important gap in the literature. It empirically explores with a quantitative methodology—and from an economic perspective—that hiring PwD exerts a positive and direct influence on a firm’s performance. Additionally, from a social perspective, this study demonstrates its positive influence on corporate reputation. These findings represent an important step in research on disability in the workplace. It has been proven that the labor inclusion of this group of workers is configured as a valid resource for those companies that adopt it as an ethical and socially responsible strategy that in turn generates value. This value can enhance financial results and reputation. Hence, we confirm according to the arguments of Lindsay et al. (2018) that the inclusion of a diverse workforce adds value to companies and enriches the global economy, also contributing to creating a more equitable society (EC, 2011; Segovia-San-Juan et al., 2017).

Our empirical research has been carried out with a large sample of

European companies from different sectors and, together with the methodology used, allows the generalization of the results. It also extends previous contributions that are theoretical or are based on case studies and descriptive analysis through surveys (Houtenville & Kalargyrou, 2015; Kalargyrou & Volis, 2014; Kuznetsova, 2012), qualitative studies or reviews (Kalargyrou, 2014; Köseoglu et al., 2021; Lindsay et al., 2018; Rosenbaum et al., 2017), and very limited samples or circumscribed to a single country in reference only to economic results (Ferreira & Rais, 2016; Oware & Mallikarjunappa, 2021). Other studies focused on diversity in general, but not specifically on the influence of disability on reputation (McMahon, 2010; McMillan-Capehart et al., 2010). In our case and according to Bergh et al. (2022), methodological contributions within empirical studies are complementary and do not substitute for theoretical contributions but can contribute to the field’s cumulative knowledge base and provide more consistency and objectivity to investigations carried out.

The quantitative empirical research through objective data is important. It eliminates the social desirability bias (Kaye et al., 2011; Ren et al., 2008) that previous studies suffer since they are based on surveys and interviews with employers who are aware of the governmental recommendations regarding this issue and the social and labor needs of this group. They respond favorably towards their integration, but, in fact, the figures of their workforce reflect the absence or little presence of these workers in the workplace.

Extant literature usually considers that the hiring of PwD can mean that employers face challenges such as the accommodations cost which is considered the main factor that prevents their hiring (Kuznetsova & Yalcin, 2017). Despite incentives provided by public policies, there has been no change in attitude (Deal, 2007). This work may seem counter-intuitive because the final results demonstrate that the hiring of these people has a positive effect on the performance and reputation of the firm. This evidence could be useful in overcoming resistance to the implementation of organizational change (Moore et al., 2022; Walk, 2023) related to the labor inclusion of PwD.

5.1. Theoretical implications

According to RBV (Grant, 1991), a major handicap is identifying and appraising a firm’s resources. While resources are the source of a firm’s capabilities, capabilities are the main source of its competitive advantage. We propose that PwD may represent a relevant resource for the firm, beneficial for generating sustainable value in the market according to the RBV (Barney, 1991; Grant, 1991; Peteraf, 1993; Wernerfelt, 1984). Previously, other authors had suggested this approach as an adequate framework for this inclusive responsible practice (Houtenville & Kalargyrou, 2012; Kalargyrou, 2014). By combining the RBV with the dynamic capabilities approach, this study contributes to developing, enriching, expanding and achieving a comprehensive interpretation of the theoretical approach.

Although the RBV provides the knowledge to better understand the configuration of PwD as a human resource (human capital) capable of generating value for companies, we highlight that the dynamic capabilities approach (Eisenhardt & Martin, 2000; Makadok, 2001; Teece, 2007; Teece et al., 1997; Winter, 2003) allows us to better understand how hiring of PwD may represent a key driver of the organizational capability to build new forms of competitive advantage, demonstrating its ability to adapt to markets (Moore et al., 2022). The special characteristics of some types of disability, when added individually (micro-foundations) to the rest of the capabilities at the organizational level, allows firms to innovate by constantly renewing their stock of capabilities. This complex combination of resources and dynamic capabilities benefits the organization either in the form of improved performance or the construction of a trustworthy disability inclusiveness reputation.

Likewise, we have broadened our knowledge of diversity (dimension of social performance) (McMillan-Capehart et al., 2010) with the analysis of one of its specific components, disability (Beatty et al., 2019),

which has been underexplored in relation to corporate reputation.

The benefits obtained (performance and reputation) shown in this study demonstrate the advantages derived from the inclusion of PwD in business environments.

5.2. Managerial/practical implications

This research shows that PwD are productive and reliable workers. Employers/human resources (HR) managers should carefully choose the PwD indicated for the vacant positions, considering their capabilities, on an equal footing with their non-disabled peers, avoiding prejudice or stereotypes. To take advantage of the talent that these workers can bring to the organization, employers/HR managers should consider the particular characteristics of PwD in the design of the recruitment and selection processes, training programs, and workplace accommodations, and innovate in all human resource strategies (timetables, partial/temporary contracts, etc.). Investment should be part of the strong commitment to include disability in the organization's culture of diversity. These initiatives contribute to obtaining higher levels of performance and a distinctive corporate reputation, as well as reducing negative attitudes towards PwD from line managers and co-workers. Successful existing examples include Walgreens, the largest drugstore chain in the United States, and Sephora, owned by LVMH Moët Hennessy Louis Vuitton, the world's leading luxury goods group, which has created five inclusive distribution centers recruiting individuals with disabilities and cognitive and physical disabilities which represent limitations for employment. These people have shown a dynamic and successful capacity for adaptation. The main change was that the employees themselves were the owners, and in addition, the managers created the necessary conditions for achieving group success by abandoning the autocratic leadership style and adopting an informal style for sharing problem-solving and decision-making with employees with disabilities (Moore et al., 2022).

Furthermore, companies could establish synergies with suppliers who are also committed to an inclusive culture and mutually benefit from knowledge sharing and their distinctive reputation. This inclusive climate and values of the company can reinforce the motivation of workers with disabilities, which will be reflected in their commitment and satisfaction with the organization. The disclosure of these practices can attract other workers with disabilities who will appreciate a sure value in these companies where they can develop their talents. Customers with disabilities can also be attracted with the assurance of knowing that their needs are understood. Hiring PwD may also be valued by clients who are aware of equality regarding social issues and by investors identified not only with the increase in economic dividends but also with the role that companies can play in achieving a fairer and more equitable society.

In short, hiring PwD is configured as a competitive strategy that results in a win-win situation for all stakeholders.

5.3. Political implications

The research presents how European national laws regarding the PwD reserve quota in companies are not enough to achieve their employability. It is necessary to promote policies to improve these regulations that further expand their protection (Brite et al., 2015; Button, 2018), create new incentives to stimulate hiring PwD and manage information campaigns for employers regarding all these issues and the benefits that working with them can offer. If employers do not easily have access to this type of information, it will be difficult to expand the hiring of this group.

5.4. Limitations and future research

This study presents some limitations. The database used did not provide demographic data on employees with disabilities (gender, age,

type of disability, length of service in the company). Future research could explore how all these characteristics influence the causal relations analyzed if business transparency progresses to be able to examine such features objectively and homogeneously. It would also be interesting to obtain primary information through quantitative and qualitative methodologies on demographic data to study their effects on the analyzed causal relationships. For instance, PwD may present an overlap of identity characteristics that could cause double discrimination (e.g., young people with disabilities, women with disabilities), making it even more challenging to access employment. Furthermore, having access to data on the type of disability or whether the disability is visible or invisible would also be important for future analyses. An additional potential research area would be to extend the analysis with a wide sample of non-European companies and use other performance ratios as dependent variables.

It would also be interesting to explore the influence of other factors on the employability of PwD (hiring decisions of managers, diverse types of specific training for PwD, or specific training of HR managers regarding PwD), to expand the knowledge and the understanding of how to promote the inclusion of disability in workplaces.

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Data access and additional results

The data used to carry out this research has been extracted from the "Refinitiv ESG company scores" database. Therefore, Refinitiv is the owner of said data. Additional results and copies of the computer programs used to generate the results presented in the article are available from the lead author at majc@uma.es.

CRedit authorship contribution statement

M. Ángeles Jurado-Caraballo: Writing – review & editing, Writing – original draft, Visualization, Validation, Supervision, Software, Resources, Project administration, Methodology, Investigation, Funding acquisition, Formal analysis, Data curation, Conceptualization. **Cristina Quintana-García:** Writing – review & editing, Writing – original draft, Visualization, Validation, Supervision, Software, Resources, Project administration, Methodology, Investigation, Formal analysis, Data curation, Conceptualization.

Declaration of competing interest

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