

Contents lists available at ScienceDirect

Journal of Cleaner Production



journal homepage: www.elsevier.com/locate/jclepro

Sustainable behaviour of B Corps fashion companies during Covid-19: A quantitative economic analysis



Matteo Ferioli^a, Patrizia Gazzola^a, Daniele Grechi^{a,*}, Elena-Mădălina Vătămănescu^b

^a Department of Economics, Università degli Studi dell'Insubria, Via Monte Generoso 71, 21100, Varese, Italy
 ^b Faculty of Management, National University of Political Studies and Public Administration (SNSPA), 30A Expozitiei Blvd, 012104, Bucharest, Romania

ARTICLE INFO

Handling Editor: Cecilia Maria Villas Bôas de Almeida

Keywords: B corps Circular economy Financial performance Corporate social responsibility Fashion industry Covid-19

ABSTRACT

This paper investigates whether or not Italian Certified B Corps® in the fashion industry achieved levels of corporate social responsibility (CSR) and financial performance that are comparable to listed companies in the same industry during the Covid-19 pandemic. After a review of the literature concerning B Corps, CSR and the circular economy, as well as some coverage of pandemic impacts, a quantitative approach is used to analyze the data empirically. Based on the data available, the study incorporated the entire population of Italian listed companies and B Corps in the fashion industry. Moreover, this study confirms the relationship between CSR and financial performance. The availability of sustainability documents other than the required social responsibility report does not directly affect a company's profitability, but they are necessary for the long term. The results also confirm the positive relationship between sustainability certification and higher financial performance, as the most sustainable companies were also the most profitable. Certified B Corps® declare their willingness to adopt circular economic principles to the same extent as non-certified listed companies. Moreover, the results show that consumers mainly remember the information disclosed on a company's homepage; therefore, managers should publish more there. However, they should not underestimate the importance of their sustainability report because it is an effective social communication tool, especially in the long term. Finally, obtaining the B Corp certification will allow companies to inform stakeholders of their social responsibility and achieve higher financial results

1. Introduction

Continuous accusations of lack of social responsibility suggest that companies in the fashion industry are not adopting enough socially responsible behaviors because doing so is challenging (Thorisdottir and Johannsdottir, 2020). It is not easy to achieve sustainability and profit objectives simultaneously. New business models for corporate social responsibility, such as B Corps, represent a solution to address this challenge. The aim of this work is to investigate whether or not Italian Certified B Corps® in the fashion industry achieved levels of corporate social responsibility (CSR) and financial performance that are comparable to listed companies in the same industry during 2020, when all businesses were suffering the effects of the Covid-19 pandemic. Before starting with the analysis, it is important to underline that 2020 was a problematic year for most economic sectors due to the spread of Covid-19. Even a thriving sector such as the fashion industry suffered severe repercussions, significantly slowing the growth of a sector that seemed to have no strategic and structural limits. From the data provided by Sole 24 ore (Sole 24 Ore), it appears that Italy has lost more than 6 billion in exports, compared to a total amount of 27.8 billion in 2019. Italian restrictions in response to the pandemic (for further information, see Ceron et al., 2020) contributed to changes in fashion companies' economic and financial results, with strong repercussions for strategic and development decisions. In Italy, for most of 2020 (March-May and November-December), restrictions prevented consumers from leaving their homes except for basic needs and standard necessities (work-food-health). In addition, fashion shops and, in certain cases, companies were not allowed to remain operational. The lockdown period required the closing of 130,000 stores employing 300,000 people, of which 85,000 belong to the clothing sector and about 45,000 to the accessories sector (Montanino et al., 2020). Specifically, the following resulted from the pandemic restrictions (Lu, 2020; Arania

* Corresponding author.

https://doi.org/10.1016/j.jclepro.2022.134010

Received 28 April 2022; Received in revised form 2 August 2022; Accepted 2 September 2022 Available online 10 September 2022 0959-6526/© 2022 Published by Elsevier Ltd.

E-mail addresses: matteo.ferioli@uninsubria.it (M. Ferioli), patrizia.gazzola@uninsubria.it (P. Gazzola), grechi.daniele@uninsubria.it (D. Grechi), madalina. vatamanescu@facultateademanagement.ro (E.-M. Vătămănescu).

et al., 2022):

- supply chain disruptions, including shortages of textile raw materials and labor shortages, as well as increases in shipping and logistics costs;
- cancelled orders and decline in sales;
- disruption in business operations; and,
- increasing production and sourcing costs.

Fashion companies have perceived Covid-19 as a threat to be survived passively, an opportunity to slow down and show their ethics, and a chance to rebuild their production portfolio (Pelikánová et al., 2021).

The evolution of value systems, numerous environmental and financial scandals, slow economic development, and stock market failures led to the expansion of CSR during this period. Furthermore, markets became increasingly competitive, and customers began considering the moral and ethical aspects before buying, thus leading to the demand for sustainable products and services (Gazzola, 2012a). Customers become more willing to pay premium prices for eco-fashion products and sustainable goods (Choi et al., 2012; Gazzola et al., 2020b; Vu et al., 2020; Kim, 2021), which affects companies' financial performance. Thus, CSR is no longer a choice for companies; instead, it represents a fundamental requirement for their long-term survival. Accordingly, companies must undertake their economic activities in a sustainable way by basing their strategies on the Triple Bottom Line (TBL) approach, using a long-term perspective to generate shared value, and taking action to increase the social, economic, and environmental value of society (European Commission, 2011; Porter and Kramer, 2011; Alhaddi, 2015; Kantar, 2020).

Social responsibility includes the need for companies to communicate their social behaviors to stakeholders by, for example, informing consumers about the sustainable activities they undertake (Lee and Lee, 2018). To date, stakeholders are interested in knowing how socially responsible companies contribute to the environment and society's well-being (Romolini et al., 2014; Joshi and Rahman, 2015; Nave and Ferreira, 2019). Non-financial statements and sustainability reports are the tools that communicate social responsibility to stakeholders, as they combine accounting information with social and ethical aspects, allowing companies to pursue external and internal analysis objectives (Brogonzoli, 2005).

This paper focuses on the Italian fashion industry because it plays an important role in the European market (Montanino et al., 2020). Specifically:

- 33.3% of the value generated by the European Union's fashion industry is associated with Italy;
- 60% of fashion in the world comes from Italian companies; and,
- 77.8% of European exports are from the Italian textile industry.

It is important to note that scholarly research on the role of benefit corporations is quite limited because of the relative newness of this corporate designation; the number of articles, although growing over the last few years, is still quite marginal. Therefore, this work aims to explore the (not so numerous) universe of benefit corporations, with a precise focus on the fashion sector in Italy for the pandemic period of 2020. As briefly explained in the previous paragraph, the fashion sector in Italy has great economic importance, which is why we want to understand how two different categories of companies behaved in response to the structural difficulties resulting from the Covid-19 pandemic. The database from which we collected financial data contains information relating only to Italian companies.

2. Literature review

2.1. Corporate social responsibility (CSR) and B corps

Corporate social responsibility is a concept that assumes different interpretations and meanings according to the culture in which it is applied (Carroll, 1999; Ferioli et al., 2021), as many economic, social, and environmental factors are continuously evolving (Adnan et al., 2018). Therefore, many governments have introduced minimum standards into their legal codes (for more information see Dhanesh, 2012 and Agudelo et al., 2019). CSR includes social, environmental, and financial aspects, as well as those related to company operations (Dahlsrud, 2008). It has become an essential requirement for companies' long-term survival (Gazzola, 2012a; Ferioli et al., 2021). They are required to commit to solving social and environmental issues, developing new business models, and obtaining sustainability certifications. However, achieving sustainability and profit objectives simultaneously is a challenge for companies, especially in the fashion industry, which has been accused many times of unsustainable practices. B Corps are a solution to address this challenge, as they are a new way of managing CSR and business that combines companies' sustainability and financial needs (Gazzola et al., 2019; Mion and Loza Adaui, 2020). In this way, they align with the Triple Bottom Line approach to sustainability (Liute and De Giacomo, 2022). They are defined as "hybrid organizations" (Mion and Loza Adaui, 2020; Riolfo, 2020) because they are between profit and non-profit companies - that is, between those that aim to achieve only profit objectives and those that seek to achieve social benefit (Riolfo, 2020). B Corps must satisfy higher standards in terms of purpose, accountability, and transparency compared to traditional companies. In this way, stakeholders can better evaluate their impacts and obtain higher financial benefits; indeed, investors consider the information disclosed by companies, especially what is declared in their sustainability reports, in their investment decisions (Cooper and Weber, 2021). They are willing to invest in more sustainable companies such as B Corps, rather than traditional ones if they are forecast to achieve higher CSR as well as financial performance (Cooper and Weber, 2021).

The literature on B Corps refers to two distinct categories of companies: Benefit Corporations and Certified B Corps. The former is a legal form conceived in Maryland in 2010 to allow companies to social, environmental, and economic objectives include in their "corporate purpose" (Gazzola et al., 2019). Therefore, they can pursue profit objectives and, simultaneously, contribute to society and the environment's well-being. The companies that adopt this legal form are defined as purpose-oriented companies because their activities are guided by a purpose that goes beyond market expectations by including social and environmental concerns (Mion and Loza Adaui, 2020). Instead, Certified B Corps own a sustainability certification issued by B Lab that lasts three years and guarantees high standards of transparency as well as social and environmental performance. The certification is also helpful for achieving better financial results (Krause, 2018; Gazzola et al., 2019; Paelman et al., 2021), as consumers are more willing to pay a premium price for socially responsible goods (Kim, 2021). To certify, companies must undertake a process called B Impact Assessment (BIA), which evaluates the companies' social and environmental performance, public transparency, and legal accountability by assessing the community, customers, environment, governance, and human resource management areas (Gazzola et al., 2019; Burger-Helmchen and Siegel, 2020). B Lab assigns a score for each examined area according to each company's characteristics - i.e., the sector, size, and geographical area. For each positive answer, companies gain points, and they can also obtain extra points if they are the best in one of the following categories: Best for Workers, Changemakers, and Governance (Nigri et al., 2020). The single scores assigned are added to form the final mark, which is called the B Impact Score; it can range from a minimum of 80 points (to be certified) to a maximum of 200. Silva et al. (2022) argue that the B Impact Assessment does not follow a standard measurement scale with fixed

maximum and minimum values, as there are no minimum values established for each of the assessed parameters (in particular for the governance and customer areas), and the he governance and customer indicator present problems regarding the scale of measurement. This means that there are no minimum values established for each of the parameters assessed and this could cause imbalances in the sustainable development process of B Corp companies. However, it is important to remember that the minimum score for obtaining certification is 80 and the median score that would obtain a non-certified company is 50.9. Hence, Certified B Corps possess a much higher level of sustainability than traditional businesses. Since some Certified B Corps are also Benefit Corporations, the Benefit Corporation legal form fits the Certified B Corps' requirements. This paper focuses on Italian Certified B Corps, of which there are currently 142, representing 7.9 billion US dollars in revenue and employing more than 15,000 people (B Lab, 2021). Table 1 shows them by sectors.

The analysis was carried out in December 2021, and the latest data available for all companies dates back to 2020. At that time, there were 124 Italian Certified B Corps, and 7 of them were in the fashion industry.

2.2. The fashion industry's role

Fashion is one of the largest industries in the world; it is worth over 3 trillion US dollars (Thorisdottir and Johannsdottir, 2020). In Italy, fashion companies account for 8.5% of the turnover, 12.5% of employment in the manufacturing industry, and the employment of 500, 000 people, of which 310,000 are employed in businesses that are smaller than the European average; indeed, more than 60% of the accessories, textile, leather, and clothing companies are small and micro-enterprises (Montanino et al., 2020). Excluding the luxury sector, the fashion industry is based on a low-price policy. However, producing goods using the cheapest methods possible creates sustainability challenges for companies (Bhardwaj and Fairhurst, 2010). It is the second largest polluter after the oil industry due to its high carbon emissions, wastewater production, large amounts of landfill waste, and poor working conditions (Business of Fashion and McKinsey and Company, 2019). The sector's need for social responsibility and sustainability emerged during the supply chain revolution in the 1990s (Caniato et al., 2012). The growth of fast fashion and mass production led to consumerism, a throwaway culture, and increased environmental pollution, and

Italian Certified B Corps by sector.

Sector	\mathbf{N}°	%
Design	2	1,41%
Agriculture	2	1,41%
Building	2	1,41%
Chemical products	3	2,11%
Consulting, professional, and technical services	25	17,61%
Digital	2	1,41%
Education	4	2,82%
Fashion	8	5,63%
Finance	3	2,11%
Food & Beverage	16	11,27%
Health	6	4,23%
Insurance	4	2,82%
IT & software	9	6,34%
Logistics and transport	3	2,11%
Manufacturing	10	7,04%
Marketing and communication	8	5,63%
Other	2	1,41%
Paper industry	8	5,63%
Personal care	6	4,23%
Power	9	6,34%
Publishing	2	1,41%
Real estate	4	2,82%
Sustainability consultancy	4	2,82%
Total	142	100%

Source: Data from B Lab (2021).

the fashion industry has been repeatedly accused of promoting consumerism and blamed for its negative ecological footprint (Thorisdottir and Johannsdottir, 2020; Chan et al., 2020; Colasante and D'Adamo, 2021). To date, the industry uses over 98 million tons of non-renewable resources per year, including fertilizers for cotton farms, chemicals to produce and dye fabrics, and petroleum, all to produce new clothes that are thrown away when they become out of fashion, sometimes before consumers have used them even once (Ellen MacArthur Foundation, 2017; Thorisdottir and Johannsdottir, 2020). The discarded products are usually lost in landfills or incinerated, thus causing a significant negative impact on the natural environment and society locally, regionally, and globally. Moreover, the industry has been slow to implement sustainable actions, and only a few companies have hired CSR experts to address sustainability issues (Ellen MacArthur Foundation, 2017; Provin et al., 2021; Thorisdottir and Johannsdottir, 2020). To date, many companies are implementing eco-friendly manufacturing practices using waterless tanning, alternative leather chemicals, and in-process control measures to meet consumer taste and regulations (Sathish et al., 2016). However, they have also been blamed for low wages, poor working conditions, and water pollution, which suggests that they engage in CSR only to compensate for their unethical behaviors (Colucci et al., 2020). Furthermore, not all fashion companies engage in CSR in the same way. Their engagement varies according to their core business. Colucci et al. (2020) showed that luxury and low market companies engage more in CSR communication (CSR talk), while shoe and leather companies engage most in CSR implementation (CSR walk). In addition, small businesses communicate and implement fewer CSR activities than large businesses because of resource constraints and lower exposure, which generates less pressure to engage in CSR.

Fashion companies should adopt greener business practices (Gazzola et al., 2020a) and rely on partners who engage in socially responsible behaviors (Caniato et al., 2012) by approaching sustainability as an opportunity to maintain a competitive advantage in the future (Gazzola, 2012a), especially following the Covid-19 pandemic (Brydges et al., 2020; Crane and Matten, 2020). They should provide more value to sustainable and eco-friendly clothing products and services that do not damage their brand's style or identity (Thorisdottir and Johannsdottir, 2020). The development of a long-term vision for economic, social, and environmental aspects that will make the industry sustainable fits the goals of B Corps.

2.3. The relationship between CSR and financial performance

The relationship between CSR activity and financial performance is recognized by many authors (; Kang et al., 2016; Krause, 2018; Pedersen et al., 2018; Doan et al., 2019; Vu et al., 2020; Phan et al., 2020; Chkir et al., 2021). However, the nature of the relationship is not clear because the factors that affect the variables cannot be easily observed (Ağan et al., 2016).

Authors who support Milton Friedman's neoclassical theory explain that companies must follow shareholders' interests by seeking greater profits (Friedman, 1962). They support the negative relationship between the variables, claiming that CSR generates additional costs by supporting employee welfare programs, charity, and community development (Agan et al., 2016). Therefore, they suggest, higher CSR activity results in lower financial performance. For example, Li and Wu (2017) focused their analysis on fashion companies' financial performance after the adoption of an environmental management system (EMS) and found a negative relationship between the variables. They demonstrated that companies that adopted an EMS achieved lower turnover, as their investment costs increased, and operational efficiency was affected. The authors explained that the negative relationship was due to companies' passive implementation of the EMS in response to increasing pressures from supply chain partners and public authorities.

On the other hand, authors who support R. Edward Freeman's stakeholder theory claim that companies' success is linked to their

ability to manage relationships with key stakeholders (Freeman, 2010; Carroll, 2008). According to them, by adopting CSR activities, companies generate higher shareholder value, increasing sales, innovation, and consumer demand. By creating social value, companies generate positive and enduring impacts on society, such as pollution reduction new jobs creation, and support to vulnerable people or social and community projects, which increase goodwill and trust and enable the access to resources and capabilities needed to be sustainable (Fonseca et al., 2022). The Resource-Based View (RBV) theory support the relationship between CSR and financial performance (Barney, 1991, 2001). CSR activities generate rare, valuable, difficult to copy, and non-substitutable resources that promote competitive advantage and generate abnormal profits supporting integration with stakeholders, who are an inimitable resource, in response to their requests (Fonseca et al., 2022). Therefore, CSR activities are seen as a tool to optimize resources and reduce costs (Battaglia et al., 2014; Ağan et al., 2016). In this way, companies can achieve positive financial returns in the future to face the initial financial investments required to set up socially responsible behaviors (Vu et al., 2020). The authors supporting this theory claim that CSR positively affects financial performance both directly and indirectly (for more information, see the following: Blomgren, 2011; Ağan et al., 2016; Kang et al., 2016; Pedersen et al., 2018; Krause, 2018; Doan et al., 2019; Phan et al., 2020; Vu et al., 2020; Yang and Jang, 2020). According to Pedersen et al. (2018) and Vu et al. (2020), CSR activity is positively related to organizational values (Pedersen et al., 2018), government support, and employee commitment (Vu et al., 2020). The authors report that McKinsey's 2010 finding that 76% of executives believe that CSR generates long-term shareholder value (Pedersen et al., 2018). However, the relationship is only valid for companies that have adopted at least three sustainable activities (Yang and Jang, 2020), and it is more effective in larger firms (Ağan et al., 2016) and in those that are more innovative and willing to take risks (Phan et al., 2020). This suggests that the way companies undertake CSR activities is a critical factor in their achievement of higher financial results. In fact, Doan et al. (2019) showed that transformational and transactional leadership styles positively impact companies' financial performance. Moreover, the authors proved that the transformational style positively impacts CSR activity, while the transactional generates a negative impact (Doan et al., 2019). However, Blomgren (2011) argued that CSR activities will only provide financial results aligned with the industry average. Moreover, companies engage in socially responsible activities to repair their past unsustainable actions (Kang et al., 2016). In 2021, Colasante and D'Adamo (2021) showed that consumers are willing to buy bio-based clothes and other bio-based products, which improves companies' financial performances. Certified B Corps are companies that follow the stakeholder theory, as they are united by the desire to change how business is carried out thanks to their innovative CSR vision (Burger-Helmchen and Siegel, 2020; Blasi and Sedita, 2022). According to Gazzola et al.'s (2019) analysis, Certified B Corps that obtained a higher B Impact Score (i.e., the most sustainable companies) were also the most profitable. According to the analyzed theory, it is possible to affirm that:

Hypothesis 1. There is a direct relationship between CSR and financial performance, and Certified B Corps that declaring having undertaken more socially responsible activities in their sustainability reports obtain greater financial performance.

The literature shows that companies who own a sustainability certification achieve greater financial performance. Furthermore, the certification helps the transition to more sustainable consumption because it works as a guarantee for consumers (Colasante and D'Adamo, 2021). However, it is costly to obtain, and consumers are asked to pay higher prices (Colasante and D'Adamo, 2021). Gazzola et al. (2019) analyzed 61 Certified B Corps that belonged to the manufacturing (18), service (31), and advisory (12) industries to investigate the relationship between the B Impact Score attributed by B Lab to the five areas of the BIA and the net income declared by the companies. The results showed a positive correlation between the B Impact Score and the net income, proving that the most sustainable companies were also the most profitable (Gazzola et al., 2019). The financial growth of Certified B Corps has also been supported by Paelman et al.'s (2021) analysis, which investigated the correlation between the turnover growth and the presence of the B Corp certification in 258 companies, of which 129 were Certified B Corps and 129 non-certified companies. The authors demonstrated a positive correlation between the two variables, specifying that the B Corp certification brings short- and medium-term financial growth (Paelman et al., 2021). Finally, Krause (2018) analyzed 60 textile companies, of which only 30 had a sustainability certification, to verify the relationship. The measure used to evaluate financial performance was the Return on Asset (ROA) index, and the results proved that certified companies obtained higher ROA (%) than non-certified companies. Therefore, the presence of a sustainability certification is positively related to greater financial performance. Considering the theoretical framework, it is possible to formulate the following hypothesis:

Hypothesis 2. Certified B Corps achieve higher financial performances than non-certified companies.

2.4. The relationship between the circular economy and the B-Corp certification

Although sustainable supply chain management practices have been developed, most fabrics are transformed into rugs or rags instead of being recycled (Provin et al., 2021; Jia et al., 2020), and the efforts towards sustainability and the circular economy are not enough (D'Adamo et al., 2022). Circular economies create a feasible relationship between ecosystems and economic growth (Jia et al., 2020) and should be the main focus for companies, as this economic practice reduces environmental impacts (Dissanayake and Weerasinghe, 2021). The recycling of textiles is the most common practice for collecting post-consumption waste, and it represents a sustainable approach by which fashion companies can lower their environmental footprint by producing fewer virgin materials, being more energy efficient, and reducing landfill waste (Provin et al., 2021). Moreover, consumers perceive bio products as high quality and good for the environment (Colasante and D'Adamo, 2021). The study conducted by Ghisellini and Ulgiati (2020) showed that the culture of the circular economy in Italy is mainly focused on the concept of recycling. The other principles (repair, reuse, remanufacture) are doing well within small businesses. Specifically, online commerce has increased reuse over the past five years. Some Italian companies are active in spreading the culture of the circular economy through different channels and in preventing and reducing waste and maintaining the value of products. Such companies go beyond recycling and exploit opportunities to grow thanks to the innovative features of the circular economy, such as renewability, design, integration of models, and collaborative production systems (Ghisellini and Ulgiati, 2020). In fact, co-opetition with local manufacturing districts and the recognition of a circular premium represent critical opportunities to cover higher costs (D'Adamo et al., 2022). Therefore, it has become necessary to promote new business models that integrate cleaner production practices allow sustainable consumption as aspects of circular economy principles (Franco, 2017; Sousa-Zomer et al., 2018; Tunn et al., 2019; Gazzola et al., 2020b; Provin and de Aguiar Dutra, 2021), such as Certified B Corps (Poponi et al., 2019; Mosconi et al., 2020). The following are the circular economy's principles (Ellen MacArthur Foundation, 2017, 2021):

• Eliminate waste and pollution: which requires reducing the negative impacts of dangerous substances and greenhouse gases on nature and human health

- Maintain products and materials in use: companies must redesign their activities to regenerate, reuse, and recycle products, components, and materials with those that generate value that can be exploited in the long term (Moraga et al., 2019)
- Regenerate natural systems: which means using and enhancing renewable resources by restoring the necessary nutrients to the soil through regeneration practices

The circular economy combines social objectives with economic ones, and it requires practices to be diversified and issues of scale, volume, and infrastructure to be addressed (Franco, 2017). It follows the 3Rs rule (reduce, reuse, recycle) and includes the multi-R hierarchy (recover, rethink, redesign, repair, redo, and redistribute) (Jabbour et al., 2019; Kristoffersen et al., 2020; Provin et al., 2021). Product redesign and new product development are critical for achieving circular economy objectives. In product redesign, complexity in basic materials and component parts, in product architecture, and in product functionality and aesthetics can limit the range of products and their degree of recoverability at end-of-life (Franco, 2017). Therefore, fashion companies' products must be designed and manufactured as follows:

- Adopt recycled and renewable materials free of hazardous substances (Sousa-Zomer et al., 2018; Ellen MacArthur Foundation, 2021; Ronchi et al., 2021)
- Be disassembled and reused to avoid waste (Shirvanimoghaddam et al., 2020; Ellen MacArthur Foundation, 2021)
- Last in the long term (Ronchi et al., 2021), and exploit and maintain their value during their use (Shirvanimoghaddam et al., 2020; Ellen MacArthur Foundation, 2021)

The circular economy requires a shift to an entirely new production system, which includes developing new skills and management practices, and it is the main form of radical process innovation in the fashion industry (Ellen MacArthur Foundation, 2017; Mosconi et al., 2020; Gazzola et al., 2020b, 2022). Eco-innovation is a prerequisite for Italian companies to maintain a competitive advantage in international markets (Ghisellini and Ulgiati, 2020). Specifically, the circular economy enables fashion companies to do the following (Ellen MacArthur Foundation, 2017; Ronchi et al., 2021):

- exploit the full value of clothing during and after their use;
- produce customized, high-quality, and affordable clothing;
- produce using renewable energy and resources;
- reduce environmental pollution by regenerating natural systems; and,
- reflect the actual social and environmental costs of materials and production processes in the prices of their products.

In the fashion industry, customer awareness of sustainable products is the major driver of circular economy adoption, which increases the possibility of transitioning to a closed loop supply chain (Jia et al., 2020). However, companies face ex-ante barriers concerning the preparation and investment stage of implementation, as well as ex-post constraints in building a long-term closed loop supply chain in the adoption process (Dissanayake and Weerasinghe, 2021). Focusing on the textile and apparel industry, Jia et al. (2020) showed that financial constraints are the main barrier to implementing the principles and to obtaining sustainable certificates, especially for small- and medium-sized enterprises (SMEs). However, Certified B Corps' business model is a tool to smooth the transition to the circular economy, as it actively supports cleaner manufacturing practices (Poponi et al., 2019; Mosconi et al., 2020). Considering the theoretical framework, it is possible to define the following hypothesis:

Hypothesis 3. Certified B Corps more actively engage in cleaner production practices than non-certified companies practices by

integrating the circular economy principles.

3. Methodology and data

3.1. Methodology

To address the research question, an empirical analysis using a quantitative approach was carried out. The first hypothesis (H1) was tested through three ordinary least squares (OLS) linear regression models that highlight the difference between the two types of companies. First, the entire population of companies was considered, then only listed companies, and, finally, only Certified B Corps. The second hypothesis (H2) was tested using an F-test of equality of variance, Shapiro-Wilk tests, and a T-test on the difference between two means. Table 2 shows the data analysis tools used to test H2. To test the last hypothesis (H3), a text-based content analysis was performed on the companies' sustainability reports using the keyword scoring approach to check the frequency and the number of times a set of words appeared in the text (Carley, 1990; Stemler, 2015). Furthermore, objective, systematic, and quantitative descriptions in the communication content were allowed (Prasad, 2008; Macnamara, 2018). The content analysis was carried out using keywords linked to innovation and the circular economy since, as mentioned, the circular economy is the main radical process innovation in the fashion sector (Ellen MacArthur Foundation, 2017; Mosconi et al., 2020). The keywords were formulated both in English and Italian, as the companies' sustainability reports were written in the two languages.

3.2. Data collection

The data collection process started in September 2021, when the latest sustainability reports and data available for all companies were dated 2020. To achieve data consistency in this analysis, the websites were also observed and analyzed for the same period. As previously mentioned, the analysis was carried out in December 2021. We used two databases for the data collection: B-Lab and AIDA. The first was the base for the Benefit impact assessment points, and the second was used to recognize the 124 Italian Certified B Corps. Among them, only those belonging to the fashion industry (7) were selected. The fashion industry includes accessories, jewelry, textiles, clothing, leather goods, and perfumery sectors because they share part of the supply chain. Through the AIDA database, it was possible to identify the listed Italian companies belonging to the fashion industry and the related data used to classify and describe the sample. The research included two filters: the first to keep only listed companies (376) and the second to keep only those companies belonging to the following ATECO 2007 economic activities (60,293):

- Textile industries (13);
- Packaging of articles of clothing; packaging of leather and fur items (14);
- Manufacture of leather and similar items (15);
- Other print (1812);
- Manufacture of auxiliary products for the textile and leather industries (20596);
- Manufacture of synthetic and artificial fibers (206);
- Manufacture of other rubber products (2219);
- Cutting, shaping, and finishing of stones (237);
- Production of precious metals (2441);
- Manufacture of jewelry and goldsmith items and related items (3212);
- Manufacture of costume jewelry and similar items (3213);
- Intermediaries in the trade of textiles, clothing, fur, footwear, and leather goods (4616);
- Retail sale of clothing items in specialized stores (4771);
- Retail sale of footwear and leather goods in specialized stores (4772);

Table 2

Data analysis tools used to test H2.

Data analysis tools	Test criterion	Description	Hypothesis H ₀	Hypothesis H ₁
F-test of equality of variance	$F = \frac{s_1^2}{s_2^2}$	$s_1^2 \mbox{ and } s_2^2$ are the variances of individual samples.	H ₀ : $\sigma_1^2 = \sigma_2^2$	$\mathrm{H_1:}~\sigma_1^2\neq\sigma_2^2$
Shapiro-Wilk test	$W = \frac{b^2}{\sum_{i=1}^n (x_i - \overline{x})^2} $	b^2 is the impartial estimate of the linear regression, x_i the element of the sample, and \overline{x} the sample average.	H ₀ : the random sample selection comes from a normal distribution	H ₁ : the random sample selection comes from a different distribution
T-test on the difference between two means	$T= \; rac{(\overline{X}_1\;-\;\overline{X}_2)\;-\;d}{\sqrt{S^2ig(rac{1}{n_1}\;+\;rac{1}{n_2}ig)}} \; u=$	\overline{X}_1 and \overline{X}_2 are the means of the two samples, S^2 the joint estimate of variance, n_1 and n_2 the size of the samples, and v the degree of freedom.	H_0 : median ₁ = median ₂	$H_1: median_1 \neq median_2$
	$n_1 + n_2 - 2$			

- Retail sale of perfumery items, toiletries, and personal hygiene products (47751);
- Retail sale of watches and jewelry in specialized stores (4777).

The AIDA search results indicated 18 listed companies, 5 of which were excluded for not belonging to the fashion sector (3) or belonging to the home fashion sector (2). This study analyzes the sample deriving from the entire population of Italian fashion companies with the previously mentioned characteristics; therefore, it is possible to define it as "population". The sample of companies analyzed is composed of 7 Certified B Corps (35%) and 13 listed companies (65%).¹

The data to describe and classify all the companies and scenarios, including their ROA index (%), were collected through the AIDA database. The decision to adopt this profitability index was due to the unavailability of other performance indicators used by other studies in the literature for all the companies in the years under analysis. Moreover, it is important to note that we are only analyzing companies that belong to the fashion sector, which, therefore, have the production of goods and/ or services as their core business. We do not consider financial companies, such as holding companies, because they can carry out different types of business and own shares or stakes in companies belonging to different sectors.

Following Wu et al. (2018), we measured CSR based on information disclosed on companies' websites and in their sustainability reports. This data collection methodology is also in line with:

- The EU Directive 2014/95 of the European Parliament and of the Council on the disclosure of non-financial information and on diversity: it requires large public interest companies to publish performance indicators, company policies, and risks concerning the following:
 - a) social and environmental impacts;
 - b) the staff;
 - c) respect for human rights; and,
 - d) the fight against active and passive corruption.
- The Legislative Decree n. 254/2016, which Italy implemented as Directive 2014/95/EU.
- The "stability" law n. 208/2015, through which Italy was the first European country to recognize B-Corporations. Paragraph 383 requires B Corps to publish a report that evaluates their impact on their websites.

The companies' websites were analyzed to collect information regarding their membership in the Fashion Pact² and their social communication. Specifically, they were reviewed to discover if sustainable activities were communicated on the homepage (sustainability on the homepage); if a dedicated webpage was available (webpage dedicated to sustainability); and, if the sustainability report and other sustainability documents were available. The latter constitutes the variable "other sustainability document", which is composed of all documents other than the sustainability report that address sustainability in a more specific way, discussing and providing evidence of the company's activities that have contributed to solving certain environmental or so-cial problems.

The sustainability reports (or consolidated financial statements if the reports were published in an integrated form) were analyzed to collect the information concerning the framework used to draft them, their title, and their location. The data collected from listed companies were compared with those published by CONSOB (i.e., the transparency and development body of the Italian securities market) as a control variable for the correctness of data collection and to identify any differences. Finally, companies that claimed to follow the principles of the circular economy, which has been found to be the main source of drastic innovation in the fashion industry, were identified.

4. Analysis and discussion

The analysis considers a small sample of companies and data relating to 2020, the year characterized by the Covid-19 pandemic. We have decided to focus our attention on this year to have a picture, from a financial and CSR point of view, of both a country and a sector that suffered greatly from the current socio-economic-political situation, as previously explained in the theoretical framework and introduction.

4.1. Descriptive statistics

This study focuses on 20 fashion companies, 18 (90%) of which belong to a group that, on average, is composed of 36 other companies. Specifically, 5 (71.43%) Certified B Corps belong to a group that, on average, is formed by 7 companies, while all the listed companies form a group of 52 companies. Furthermore, 4 (57.14%) Certified B Corps use the Benefit Corporation legal form. Following the European Commission's recommendation 2003/361/EC, 6 (85.71%) of the Certified B Corps are SMEs (Table 3), as they have on average \notin 18,300,537.43 of revenues, \notin 37,647,274.14 of total assets, and eight employees (Table 4). Instead, listed companies are mainly large (76.92%), having, on

¹ Considering the final sample, no benefit corporations are listed and all but one of the listed companies is listed on the Italian stock exchange.

² The Fashion Pact was used as a variable to measure CSR, as it is the largest coalition of leading global fashion and textile companies committed to halting global warming, restoring biodiversity, and protecting the oceans. Furthermore, it is relevant, as it was presented to the heads of state at the G7 summit in Biarritz. For this reason, being part of this coalition represents a strong signal of the will to engage in CSR activities. For further information see https://thefash ionpact.org/?lang=it.

Table 3

Size of companies following the Recommendation 2003/361/EC.

Size	Listed companies	Certified B Corps	%
Micro	0	1	5%
Small	0	3	15%
Medium	3	2	25%
Large	10	1	55%
Total	13	7	20 (100%)

Table 4

Balance sheet data used to categorize the companies' size.

Balance sheet data	Listed companies	Certified B Corps
Average revenues from sales	279,217,716.31 €	18,300,537.43 €
Average total assets	701,194,837.54 €	37,647,274.14 €
Average number of employees	857	80

average, \notin 279,217,716.31 of revenues from sales, \notin 701,194,837.54 of total assets, and 857 employees.

4.2. Relationship between CSR and financial performance

The purpose of H1 is to verify whether Certified B Corps that claim to have undertaken more socially responsible activities in their sustainability reports obtain higher financial performance than listed companies. The measure for CSR is the information available in the sustainability reports and on the companies' websites, while the financial performance is measured through the companies' ROA (%) index. Eighteen companies were considered when testing this hypothesis, as two do not publish any sustainability reports. In all the regressions, the software omitted the "sustainability reports" variable, as it was perfectly collinear with the other variables. Considering only the Certified B Corps in the sample population, the "Webpage dedicated to sustainability" variable was omitted because it was perfectly collinear, and the "Fashion Pact membership" variable was omitted because all values were zero.

From the output of the first multiple linear regression, which considers the entire population, the significant variables are "Sustainability on the homepage" (SE = 0.0184; $\hat{\beta}_1 = 0.0452$; t (4,13) = 2.451; p-value = 0.0292) and "Other sustainability documents" (SE = 0.0209; $\hat{\beta}_3 = -0.0728$; t (4,13) = -3.475; p-value = 0.0041) (Table 5). The coefficient of the first variable provides evidence that the presence of information on the homepage positively correlates with financial performance. This means that if companies publish more information regarding sustainability on their homepage, they will achieve greater financial performance. However, the presence of other sustainability documents negatively correlates with financial performance. Therefore, if companies publish more documents related to sustainability that are different from their sustainability report, their financial performance will decrease. The estimates for both the variables are accurate as of the standard Error < β . Moreover, the linear function explains 65.26% of the

Table 5					
OLS regression output considering	the entire	population	of com	oanies (H1).

Model: OLS multiple linear regress	ion		R ²	0.6526
Observations: 1-18 Dependent variable: "ROA (%) (2020)" Omitted for perfect collinearity: "Sustainability reports"			Adj. R ² F (1,18) p-value	0.5457 6.1055 0.0054
Variables	Coefficient	Std. Error	t	p- value
Constant Sustainability on the homepage Webpage dedicated to	-0.0460 0.0452 0.0596	0.0372 0.0184 0.0401	-1.235 2.451 1.487	0.2388 0.0292 0.1610
sustainability Other sustainability documents Fashion Pact membership	-0.0728 -0.0233	0.0209 0.0272	-3.475 -0.856	0.0041 0.4074

variability of Y, and the percentage of variation explained by only the independent variables that affect the dependent one is 54.57%. Therefore, the model is good and significant (p-value = 0.0054; F statistic >2).

Considering only listed companies, the only significant variable is "Other sustainability documents" (SE = 0.0302; $\hat{\beta}_3 = -0.0874$; t (4, 7) = -2.891; p-value = 0.0233) (Table 6). The coefficient shows that it negatively correlates with financial performance ($\hat{\beta}_3 < 0$). Therefore, if companies publish more information regarding sustainability on their homepage, their financial performance will decrease. Even in this case, the variable's estimate is accurate according to Standard Error < β . Moreover, the model is weakly significant (p-value = 0.0718 < 0.1), and it explains 66.58% of the variability of Y. The percentage of variation explained by the sole independent variables that affect the dependent one is 47.50%. Therefore, the model is good (F statistic >2).

Finally, considering only Certified B Corps, the relationship between the variables is not detected, as neither the model nor the variables are significant (Table 7).

The results demonstrate that there is a link between CSR activity and the companies' financial performance. Therefore, based on the available data, H1 is partially confirmed. In fact, we can confirm it entirely for the full sample population and for listed companies. Due to collinearity (probably induced by sample size, as explained in Table 7) it is not possible to confirm H1 for the B Corps. The results agree with the authors who support this relationship (Blomgren, 2011; Ağan et al., 2016; Kang et al., 2016; Pedersen et al., 2018; Krause, 2018; Doan et al., 2019; Gazzola et al., 2019; Phan et al., 2020; Vu et al., 2020; Yang and Jang, 2020). Considering the entire population, the companies that communicate their socially responsible behavior more on their homepage achieved greater financial performances (positive correlation). This result reflects the literature regarding consumers' increased attention to sustainable and eco-fashion products (Choi et al., 2012; Gazzola et al., 2020b; Vu et al., 2020; Kim, 2021). Consumers determine part of the company's profitability, and the analysis' results show a positive relationship between sustainability on the homepage and better financial performance. The positive relationship between the two variables is valid when considering the entire population, which is mainly composed of medium-large companies. It aligns with Ağan et al. (2016) and Phan et al. (2020), according to which the link between CSR activity and financial performance is more effective in larger firms, as they are more willing to take risks.

In contrast, for both listed companies and the entire population, the presence of sustainability documents other than the sustainability report led to worse financial performance (negative correlation). The analysis evaluates financial performance according to a company's ROA index, the principal measure used by other studies in the literature (Krause, 2018), and other indexes were not available for all companies. The ROA is the percentage of how profitable assets are in terms of generating revenues in one year. Therefore, profitability is measured through an index that reflects a company's effective and efficient use of its assets in the short term. At the time of purchase (short-term), consumers are

Table 6

OLS regression output considering only listed companies (H1).

Model: OLS multiple linear regress	sion		\mathbb{R}^2	0.6658
Observations: 1-12 Dependent variable: "ROA (%) (2020)" Omitted for perfect collinearity: "Sustainability reports"			Adj. R ² F (1,18) p-value	0.4750 3.4878 0.0718
Variables	Coefficient	Std. Error	t	p- value
Constant Sustainability on the homepage Webpage dedicated to sustainability	-0.0460 0.0468 0.0655	0.041 0.0201 0.0453	-1.12 1.664 1.445	0.2996 0.1400 0.1916
Other sustainability documents Fashion Pact membership	$-0.0874 \\ -0.0158$	0.0302 0.0348	-2.891 -0.4537	0.0233 0.6638

M. Ferioli et al.

Table 7

OLS regression output considering only Certified B Corps (H1).

Model: OLS multiple linear regression				0.4064
Observations: 1-6	Adj. R ²	0.0108		
Dependent variable: "ROA (%) (2	Dependent variable: "ROA (%) (2020)"			1.0272
			(1,18)	
Omitted because all values are zero: "Fashion Pact membership"			p-value	0.4572
Omitted for perfect collinearity: "Sustainability reports" and				
"Webpage dedicated to sustaina	ibility"			
Variables	Coefficient	Std. Error	t	p-value
Constant	0.0084	0.042	0.1998	0.8544
Sustainability on the homepage	0.0417	0.0485	0.8606	0.4528
Other sustainability documents	-0.0521	0.0383	-1.360	0.2671

informed about the company's sustainability, but they do not go into detail by reading the sustainability report or other documents to verify how sustainable it is. They remember only the information disclosed on the homepage. Therefore, these documents and reports do not directly affect profitability in the short term. Vu et al. (2020) and Pedersen et al. (2018) agree that socially responsible behaviors require initial financial investments that will turn into positive financial returns over the long term. Therefore, to verify the relationship between "other sustainability documents" and the ROA index in the long term, it would be necessary to consider several years.

4.3. Relationship between the B Corp certification and financial performance

The second hypothesis assumes that Certified B Corps achieve greater financial performance than non-certified companies. The results show that Certified B Corps have, on average, a higher ROA index (2.64%) than listed companies (-1.45%) (Fig. 1).

From the F-test of equality of variance, it is impossible to reject the null hypothesis (H₀), as the p-value is higher than 0.05. Therefore, the equality of variance is considered for the ROA indicator (H₀: $\sigma_1^2 = \sigma_2^2$) (Table 8).

The Shapiro-Wilk test shows that the ROA for listed companies is normally distributed (p-value > 0.05; Accept H₀: random sample selection comes from a normal distribution), while for Certified B Corps, it is not (p-value < 0.05) (Table 9).

The T-test on the difference between two means, represented in Table 10, demonstrates that the difference in the averages of the ROA indexes of the two types of companies is not significant, as T is included in the acceptance range. Therefore, it is possible to accept the null



Fig. 1. ROA index (%) boxplot.

Table 8

F-test of	equality	of variance.
-----------	----------	--------------

F-test	Listed Companies	Certified B Corps
Mean Variance	-0.014515385	0.026414286
Observations	13	7
df F	12 2.080090537	6
F Critical two-tails	3	4
lpha=0.25	3.73	5.37
$P(F \le =f)$ two-tails	0.268	0.186

Table 9

Shapiro-Wilk test	Listed Companies	Certified B Corps
W test	0.966	0.780
p-value	0.841	0.026

T-test on the difference between two means.

T-test	Listed Companies	Certified B Corps
Mean	-0.014515385	0.026414286
Variance	0.003100988	0.001490795
Observations	13	7
Pooled variance	0,002564257	
ν	18	
t (0.025)	2.101	
Т	1,724102861	
Significance	T > 1.73	

hypothesis (H₀: mean₁ = mean₂) for alpha = 0.05. On the other hand, by carrying out the T-test with a confidence level of 10%, the result is significant.

Based on the available data, the results show a direct relationship between the presence of sustainability certification and a companies' financial performance. It is crucial to highlight that the analysis focuses on 2020, a year characterized by Covid-19 and the related lockdown period, which pushed fashion companies to reduce production (-81%) and sales (-83%) (Montanino et al., 2020). They were forced to close stores, and customers started to buy almost entirely online. For this reason, 2020 was an unusual year. However, it emerged that Certified B Corps, on average, performed better than large, listed companies. This study aligns with Krause (2018), who showed that certified companies obtained higher ROA values than non-certified ones, and Gazzola et al. (2019), who demonstrated that the most sustainable companies were also the most profitable. The better performances are due to consumers' increased interest and willingness to buy and pay a higher price for eco-fashion and sustainable products (Choi et al., 2012; Gazzola et al., 2020b; Vu et al., 2020; Kim, 2021).

In order to have a precise picture of these two groups of companies, the same analysis on ROE was carried out. We wanted to understand if there is a difference in value between the two samples considered for this relevant index. In this case, after examining the data through the Shapiro Wilk test (p-value 0.001, W 0.67) and having excluded the data normality, we proceeded to use a Mann Whitney *U* Test for the unpaired data (7 B Corps and 13 Listed Companies). The result is a Test statistic W: 29 with a p-value of 0.22. For this reason, the test is not statistically significant, and there is no difference between the two samples of companies.

Therefore, based on the results of the analysis, it is possible to confirm H2 by declaring that the presence of sustainability certification positively relates to greater financial performance in terms of ROA index, but it is not possible to affirm that the ROE index has the same statistical relation. In fact, at the time of purchase, consumers recognize sustainable companies by checking to see if they own a sustainability certification. In this way, it influences their purchase decision. This study provides evidence that smaller firms, such as Certified B Corps, perform better than large, listed companies, especially in a year characterized by the pandemic and significant downturns in sales. The results also show some discrepancies with Blomgren (2011), who argues that socially responsible behaviors will only provide profits aligned with the industry average, and with Paelman et al. (2021), according to whom B Corp certification brings short- and medium-term financial growth.

4.4. The relationship between circular economy and B-Corp certification

The purpose of H3 is to verify whether Certified B Corps more actively engage in cleaner production practices than non-certified by integrating the circular economy principles. The results show that only among those companies who publish sustainability reports (18), 83.33% of them declare their adherence to the circular economy's principles. Moreover, considering the two types of companies, it emerged that they follow the principles in equal measures (83.33%) (Table 11).

It is essential to underline that the sample is unbalanced; the listed companies analyzed are almost double that of the B-Corp, which implies that the weight for each company that does not follow the principles of the circular economy is greater for the B Corp. In fact, among the companies that make their sustainability report publicly available, only one B Corp does not follow these principles, while two listed companies do not follow them.

5. Conclusion

The challenge of combining social and environmental objectives with financial ones led to a lack of social responsibility in the fashion industry (Thorisdottir and Johannsdottir, 2020). Certified B Corps represent a solution, as they are a new way of managing CSR and business that combines sustainability and the financial needs of companies (Gazzola et al., 2019; Mion and Loza Adaui, 2020). This study investigated whether, during the Covid-19 pandemic, the Certified B Corps in the Italian fashion industry achieved corporate social responsibility and financial performances that were comparable to large, listed companies. The results highlighted both similarities and discrepancies with the prior literature. Based on the available data, the link between CSR activity and financial performance is verified. Therefore, the results align with Gazzola et al. (2012b), Ağan et al. (2016), Kang et al. (2016), Krause (2018), Pedersen et al. (2018), Gazzola et al. (2019), Doan et al. (2019), Vu et al. (2020), Phan et al. (2020), and Chkir et al. (2021). H1 is verified for the entire study population or only listed companies. Specifically, in terms of the entire population, it emerged that companies that communicate their socially responsible behavior on their homepage achieve greater financial performance, while the presence of sustainability documents other than the sustainability report led to worse financial performance for listed companies and the entire population. The relationship is more effective in larger firms, such as listed companies. Consumers are interested in purchasing sustainable and eco-fashion products; however, in the short term, they are informed about a company's sustainability only through the information disclosed on their homepage. They do not go into detail by reading the sustainability reports or other documents to verify how sustainable a company is. Since consumers determine part of a company's profitability, and sustainability documents other than the

Table 11

Companies that follow the circular economy's principles.

Circular economy	Listed Companies	Certified B Corps
N° of companies	10	5
%	83.33%	83.33%

sustainability report are often not read by them in the short term, this type of document does not directly affect a company's profitability; however, they are needed for long-term profitability.

It is possible to confirm the second hypothesis (H2), as there is a direct positive relationship between sustainability certification and the companies' financial performance. Certified B Corps, on average, performed better (higher ROA index) than large, listed companies in a year characterized by the pandemic and a significant downturn in sales, because consumers are interested in and willing to pay a premium price for sustainable and eco-fashion products (Choi et al., 2012; Gazzola et al., 2020b; Vu et al., 2020; Kim, 2021). The presence of the B Corp Certification positively influences their purchasing decision. Therefore, the most sustainable companies were also the most profitable. The results align with Krause (2018) and Gazzola et al. (2019). Although the literature points out that the Certified B Corps business model promotes the adoption of cleaner production practices by integrating circular economy principles, the results show that they declare their adherence to the principles of the circular economy to the same extent as non-certified listed companies.

Stakeholders' expectations have evolved, and fashion companies should communicate the sustainable initiatives that they undertake. Since consumers remember the sustainability information disclosed on their homepage, companies should publish more there. In this way, they would achieve greater financial performance. However, companies should not underestimate the importance of their sustainability report because, although it seems to not bring short-term benefits, it is an effective tool for social communication, especially in the long term. It is also essential that companies do not use communication only as a marketing strategy because the literature recognizes that it will bring short-term benefits only (Gazzola, 2012a). Instead, they should communicate their impacts on society and the environment, as well as their sustainability values, and provide evidence that they are truly sustainable. Moreover, by obtaining a sustainability certification they will achieve greater financial performance, and stakeholders will be informed that the company is not embracing greenwashing. Since circular economy principles are a way to implement cleaner manufacturing practices (Sousa-Zomer et al., 2018; Tunn et al., 2019; Gazzola et al., 2020b; Provin et al., 2021), companies should follow these principles and communicate their adoption more in their sustainability reports.

The study acknowledges several limitations. First, it is necessary to stress that the analysis was carried out with data from 2020, which was characterized by the Covid-19 pandemic and the subsequent lockdown that forced many companies to close their stores and customers to buy almost entirely online. Furthermore, the small breadth of the sample revealed weaker relationships between the variables. We are perfectly aware that the final results are influenced by the size of the sample, but the analyzed companies currently represent the entire set of listed or B-Corp Italian fashion industry businesses.

Concerning future development, it will be possible to have two distinct levels (e.g., geographic and temporal comparison) and to compare the Italian fashion industry reality with European data for both listed companies and benefit corporations during the pandemic period, in order to test differences and similarities and develop more generalizable results at the European or global level. Furthermore, regarding the actual sample companies, it will be interesting to analyze their financial and performance trends in the post-pandemic period to understand how these companies are reacting after this disruption. Obviously, it is not possible to forget the sample size. In the future, it will be possible to have a huge number of Italian B Corps and listed companies to increase the explanation power for this topic. In fact, following Chkir et al. (2021), single-country studies provide more in-depth information than international ones, as they are limited to the country's unique internal characteristics and economic and social contexts (Chkir et al., 2021). Moreover, as sustained by Romero and Ferro (2016) the role of time is a constraint that can influence the analysis of this work. Repeating the same analysis, with a different sample (due to an

M. Ferioli et al.

increment of Certified B-corps in the considered territory) could provide partially different results.

Finally, the positive relationship between "other sustainability documents" and financial performance in the long term could be tested by, for example, analyzing three consecutive years or other performance indicators.

CRediT authorship contribution statement

Matteo Ferioli: Formal analysis, contributed to the design and implementation of the research, to the analysis of the results and to the writing of the manuscript. Patrizia Gazzola: Formal analysis, contributed to the design and implementation of the research, to the analysis of the results and to the writing of the manuscript. Daniele Grechi: Formal analysis, contributed to the design and implementation of the research, to the analysis of the results and to the writing of the manuscript. Elena-Mădălina Vătămănescu: Formal analysis, contributed to the design and implementation of the research, to the analysis of the results and to the writing of the manuscript.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

Data will be made available on request.

Acknowledgements

Paper developed with the financial support of University of Insubria and MOVEON Project.

References

- Adnan, S.M., Hay, D., van Staden, C.J., 2018. The influence of culture and corporate governance on corporate social responsibility disclosure: a cross country analysis. J. Clean. Prod. 198, 820–832. https://doi.org/10.1016/j.jclepro.2018.07.057.
- Ağan, Y., Kuzey, C., Acar, M.F., Açıkgöz, A., 2016. The relationships between corporate social responsibility, environmental supplier development, and firm performance. J. Clean. Prod. 112, 1872–1881. https://doi.org/10.1016/j.jclepro.2014.08.090.
- Agudelo, M.A.L., Jóhannsdóttir, L., Davídsdóttir, B., 2019. A literature review of the history and evolution of corporate social responsibility. Int Journal of Corporate Social Responsibility 4 (1), 655. https://doi.org/10.1186/s40991-018-0039-y.
- Alhaddi, H., 2015. Triple bottom line and sustainability: a literature review. Business and Management Studies 1 (2), 6–10. https://doi.org/10.11114/bms.v1i2.752.
- Arania, F., Putri, I.M., Saifuddin, M., 2022. The impact of Covid-19 on textile and fashion industries: the economic perspective. Journal of Marketing Innovation (JMI) 2 (1), 1–14. https://doi.org/10.35313/jmi.v2i1.18.
- Barney, J., 1991. Firm resources and sustained competitive advantage. J. Manag. 17 (1), 99–120. https://doi.org/10.1177/014920639101700108.
- Barney, J.B., 2001. Resource-based theories of competitive advantage: a ten-year retrospective on the resource-based view. J. Manag. 27 (6), 643–650. https://doi. org/10.1177/014920630102700602.
- Battaglia, M., Testa, F., Bianchi, L., Iraldo, F., Frey, M., 2014. Corporate social responsibility and competitiveness within SMEs of the fashion industry: evidence from Italy and France. Sustainability 6 (2), 872–893. https://doi.org/10.3390/ su6020872.
- Bhardwaj, V., Fairhurst, A., 2010. Fast fashion: response to changes in the fashion industry. Int. Rev. Retail Distrib. Consum. Res. 20 (1), 165–173. https://doi.org/ 10.1080/09593960903498300.
- Blasi, S., Sedita, S.R., 2022. Mapping the emergence of a new organisational form: an exploration of the intellectual structure of the B Corp research. Corp. Soc. Responsib. Environ. Manag. 29 (1), 107–123. https://doi.org/10.1002/csr.2187.
- Blomgren, A., 2011. Does corporate social responsibility influence profit margins? A case study of executive perceptions. Corp. Soc. Responsib. Environ. Manag. 18 (5), 263–274. https://doi.org/10.1002/csr.246.

Brogonzoli, L., 2005. La Rendicontazione Sociale. Elemond scuola & azienda, Milano.

- Brydges, T., Retamal, M., Hanlon, M., 2020. Will COVID-19 support the transition to a more sustainable fashion industry? Sustain. Sci. Pract. Pol. 16 (1), 298–308. https:// doi.org/10.1080/15487733.2020.1829848.
- Burger-Helmchen, T., Siegel, E.J., 2020. Some thoughts on CSR in relation to B corp labels. Enterpren. Res. J. 10 (4) https://doi.org/10.1515/erj-2020-0231.

- Business of Fashion and McKinsey & Company, 2019. The State of Fashion 2019. https://www.mckinsey.com/industries/retail/our-insights/the-state-of-fashion-2019-a-year-of-awakening.
- Caniato, F., Caridi, M., Crippa, L., Moretto, A., 2012. Environmental sustainability in fashion supply chains: an exploratory case based research. Int. J. Prod. Econ. 135 (2), 659–670. https://doi.org/10.1016/j.ijpe.2011.06.001.
- Carley, K., 1990. Content analysis. In: Asher, R.E. (Ed.), The Encyclopedia of Language and Linguistics, 2. Pergamon, Edinburgh, pp. 725–730.
- Carroll, A.B., 1999. Corporate social responsibility: evolution of a definitional construct. Bus. Soc. 38 (3), 268–295. https://doi.org/10.1177/000765039903800303.
- Carroll, A.B., 2008. A history of corporate social responsibility: Concepts and practices. In: The Oxford Handbook of Corporate Social Responsibility, 1. https://doi.org/ 10.1093/oxfordhb/9780199211593.003.0002.
- Ceron, M., Palermo, C.M., Salpietro, V., 2020. Limiti e prospettive della gestione europea durante la pandemia da Covid-19. Covid-19. A Global Challenge 55 (228), 167.
- Chan, H.L., Wei, X., Guo, S., Leung, W.H., 2020. Corporate social responsibility (CSR) in fashion supply chains: a multi-methodological study. Transport. Res. E Logist. Transport. Rev. 142, 102063 https://doi.org/10.1016/j.tre.2020.102063.
- Chkir, I., Hassan, B.E.H., Rjiba, H., Saadi, S., 2021. Does corporate social responsibility influence corporate innovation? International evidence. Emerg. Mark. Rev. 46, 100746 https://doi.org/10.1016/j.ememar.2020.100746.
- Choi, T.M., Lo, C.K., Wong, C.W., Yee, R.W., 2012. Green manufacturing and distribution in the fashion and apparel industries. Int. J. Prod. Econ. 135 (2), 531. https://doi. org/10.1016/j.ijpe.2011.07.012.
- Colasante, A., D'Adamo, I., 2021. The circular economy and bioeconomy in the fashion sector: emergence of a "sustainability bias". J. Clean. Prod. 329, 129774 https://doi. org/10.1016/j.jclepro.2021.129774.
- Colucci, M., Tuan, A., Visentin, M., 2020. An empirical investigation of the drivers of CSR talk and walk in the fashion industry. J. Clean. Prod. 248, 119200 https://doi.org/ 10.1016/j.jclepro.2019.119200.
- Cooper, L.A., Weber, J., 2021. Does benefit corporation status matter to investors? An exploratory study of investor perceptions and decisions. Bus. Soc. 60 (4), 979–1008. https://doi.org/10.1177/0007650319898462.
- Crane, A., Matten, D., 2020. COVID-19 and the future of CSR research. J. Manag. Stud. https://doi.org/10.1111/joms.12642.
- Dahlsrud, A., 2008. How corporate social responsibility is defined: an analysis of 37 definitions. Corp. Soc. Responsib. Environ. Manag. 15 (1), 1–13. https://doi.org/ 10.1002/csr.132.
- Dhanesh, G.S., 2012. The view from within: internal publics and CSR. J. Commun. Manag. 16 (1), 39–58. https://doi.org/10.1108/13632541211197987.
- Dissanayake, D.G.K., Weerasinghe, D., 2021. Towards circular economy in fashion: review of strategies, barriers and enablers. Circular Economy and Sustainability 1–21. https://doi.org/10.1007/s43615-021-00090-5.
- Doan, T., Bui, V., Phan, T., Nguyen, X., Tran, T., 2019. The impact of leadership style and corporate social responsibility practices on financial performance: evidence from Textile industry. Management Science Letters 9 (12), 2105–2120. https://doi.org/ 10.5267/j.msl.2019.6.023.
- D'Adamo, I., Lupi, G., Morone, P., Settembre-Blundo, D., 2022. Towards the circular economy in the fashion industry: the second-hand market as a best practice of sustainable responsibility for businesses and consumers. Environ. Sci. Pollut. Control Ser. 1–14. https://doi.org/10.1007/s11356-022-19255-2.
- Ellen MacArthur Foundation, 2017. A New Textiles Economy: Redesigning Fashion's Future. Ellen MacArthur Foundation, pp. 3–117. Available at: https://ellenmacarth urfoundation.org/a-new-textiles-economy.
- Ellen MacArthur Foundation, 2021. The Jeans Redesign Guidelines. Ellen MacArthur Foundation, pp. 6–9. Available at: http://www.ellenmacarthurfoundation.org/publi cations.
- European Commission, 2011. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: A Renewed EU Strategy 2011-14 for Corporate Social Responsibility. European Commission, 6. Available at: https://op.europa.eu/en/pu blication-detail/-/publication/ae5ada03-0dc3-48f8-9a32-0460e65ba7ed/langua ge-en.
- Ferioli, M., Freitas, M., Spulber, D., 2021. The freedom to be sustainable, from the past to the future. Geopolitical, Social Security and Freedom Journal 4 (2), 59–79. https:// doi.org/10.2478/gssfj-2021-0012.
- Fonseca, L., Silva, V., Sá, J.C., Lima, V., Santos, G., Silva, R., 2022. B Corp versus ISO 9001 and 14001 certifications: aligned, or alternative paths, towards sustainable development? Corp. Soc. Responsib. Environ. Manag. 29 (3), 496–508. https://doi. org/10.1002/csr.2214.
- Franco, M.A., 2017. Circular economy at the micro level: a dynamic view of incumbents' struggles and challenges in the textile industry. J. Clean. Prod. 168, 833–845. https://doi.org/10.1016/j.jclepro.2017.09.056.
- Freeman, R.E., 2010. Strategic Management: A Stakeholder Approach. Cambridge university press.
- Friedman, M., 1962. Capitalism and Freedom. University of Chicago Press, Chicago. Gazzola, P., 2012a. CSR per scelta o per necessità? Maggioli Editore. Sant'Arcangelo di Romagna.
- Gazzola, P., 2012b. La comunicazione sociale nella creazione di valore sostenibile. Economia Aziendale Online (2), 11–24. https://doi.org/10.13132/2038-5498/ 2005.2.11-24.
- Gazzola, P., Grechi, D., Ossola, P., Pavione, E., 2019. Certified Benefit Corporations as a new way to make sustainable business: the Italian example. Corp. Soc. Responsib. Environ. Manag. 26 (6), 1435–1445. https://doi.org/10.1002/csr.1758.
- Gazzola, P., Pavione, E., Pezzetti, R., Grechi, D., 2020a. Trends in the fashion industry. The perception of sustainability and circular economy: a gender/generation

M. Ferioli et al.

quantitative approach. Sustainability 12, 2809. https://doi.org/10.3390/ su12072809.

- Gazzola, P., Pavione, E., Grechi, D., Raimondi, V., 2020b. L'economia circolare nella fashion industry, ridurre, riciclare e riutilizzare: alcuni esempi di successo. Economia Aziendale Online 11 (2), 165–174. https://doi.org/10.13132/2038-5498/11.2.165-174.
- Gazzola, P., Amelio, S., Grechi, D., Alleruzzo, C., 2022. Culture and Sustainable Development: the Role of Merger and Acquisition in Italian B Corps. Corporate Social Responsibility and Environmental Management, pp. 1–14. https://doi.org/10.1002/ csr.2290.
- Ghisellini, P., Ulgiati, S., 2020. Circular economy transition in Italy. Achievements, perspectives and constraints. J. Clean. Prod. 243, 118360 https://doi.org/10.1016/j. jclepro.2019.118360.
- Jabbour, C.J.C., de Sousa Jabbour, A.B.L., Sarkis, J., Godinho Filho, M., 2019. Unlocking the circular economy through new business models based on large-scale data: an integrative framework and research agenda. Technol. Forecast. Soc. Change 144, 546–552. https://doi.org/10.1016/j.techfore.2017.09.010.
- Jia, F., Yin, S., Chen, L., Chen, X., 2020. The circular economy in the textile and apparel industry: a systematic literature review. J. Clean. Prod. 259, 120728 https://doi.org/ 10.1016/j.jclepro.2020.120728.
- Joshi, Y., Rahman, Z., 2015. Factors affecting green purchase behaviour and future research directions. International Strategic management review 3 (1–2), 128–143. https://doi.org/10.1016/j.ism.2015.04.001.
- Kang, C., Germann, F., Grewal, R., 2016. Washing away your sins? Corporate social responsibility, corporate social irresponsibility, and firm performance. J. Market. 80 (2), 59–79. https://doi.org/10.1509/jm.15.0324.
- Kantar, 2020. Special Eurobarometer 501: Attitudes of European Citizens towards the Environment. European Union. Available at: https://data.europa.eu/data/datasets/s 2257_92_4_501_eng?locale=en.
- Kim, Y., 2021. Certified corporate social responsibility? The current state of certified and decertified B Corps. Corp. Soc. Responsib. Environ. Manag. 28 (6), 1760–1768. https://doi.org/10.1002/csr.2147.
- Krause, J., 2018. Relationship between the Voluntary Instrument of CSR in the Textile Industry in the Czech Republic and Financial Performance. Fibres & Textiles in Eastern Europe, pp. 8–12. https://doi.org/10.5604/01.3001.0012.2524.
- Kristoffersen, E., Blomsma, F., Mikalef, P., Li, J., 2020. The smart circular economy: a digital-enabled circular strategies framework for manufacturing companies. J. Bus. Res. 120, 241–261. https://doi.org/10.1016/j.jbusres.2020.07.044.
- Lab, B., 2021. Cambiare Il Mondo È Un'impresa. Possibile. Il Primo Report Delle B Corp Italiane. B Lab. Available at: https://unlockthechange.it/il-primo-report-delle-bcorp.
- Lee, J., Lee, Y., 2018. Effects of multi-brand company's CSR activities on purchase intention through a mediating role of corporate image and brand image. J. Fash. Mark. Manag.: Int. J. 22 (3), 387–403. https://doi.org/10.1108/JFMM-08-2017-0087.
- Li, B., Wu, K., 2017. Environmental management system adoption and the operational performance of firm in the textile and apparel industry of China. Sustainability 9 (6), 992. https://doi.org/10.3390/su9060992.
- Liute, A., De Giacomo, M.R., 2022. The environmental performance of UK-based B Corp companies: an analysis based on the triple bottom line approach. Bus. Strat. Environ. 31 (3), 810–827. https://doi.org/10.1002/bse.2919.
- Lu, S., 2020. 2020 Fashion Industry Benchmarking Study. Available at: https://ame ricanmarketer.com/wp-content/uploads/2020/08/USFIA-2020-Fashion-Industry-Benchmarking-Study.pdf.
- Macnamara, J., 2018. Content analysis. Mediated communication 7, 191. https://doi. org/10.1515/9783110481129.
- Mion, G., Loza Adaui, C.R., 2020. Understanding the purpose of benefit corporations: an empirical study on the Italian case. International Journal of Corporate Social Responsibility 5 (1), 1–15. https://doi.org/10.1186/s40991-020-00050-6.
- Montanino, A., Iacovone, D., Daviddi, M., Ferri, D., Radoccia, S., Boccardelli, P., 2020. Settore Moda e Covid-19: Scenario, impatti, prospettive. Cassa Depositi e Prestiti, Ernst & Young. Luiss Business School. Available at: https://assets.ey.com/content/d am/ey-sites/ey-com/it_it/generic/generic-content/ey-settore-moda-e-covid-19-v5. pdf.
- Moraga, G., Huysveld, S., Mathieux, F., Blengini, G.A., Alaerts, L., Van Acker, K., Meester, S., Dewulf, J., 2019. Circular economy indicators: what do they measure? Resour. Conserv. Recycl. 146, 452–461. https://doi.org/10.1016/j. resconrec.2019.03.045.
- Mosconi, E.M., Poponi, S., Fortunati, S., di Trifiletti, M.A., 2020. B corp certification for a circular economy approach and a sustainable pathway. In: Customer Satisfaction and Sustainability Initiatives in the Fourth Industrial Revolution, pp. 167–188. https:// doi.org/10.4018/978-1-7998-1419-1.ch009. IGI Global.
- Nave, A., Ferreira, J., 2019. Corporate social responsibility strategies: past research and future challenges. Corp. Soc. Responsib. Environ. Manag. 26 (4), 885–901. https:// doi.org/10.1002/csr.1729.

- Nigri, G., Del Baldo, M., Agulini, A., 2020. Governance and accountability models in Italian certified benefit corporations. Corp. Soc. Responsib. Environ. Manag. 27 (5), 2368–2380. https://doi.org/10.1002/csr.1949.
- Paelman, V., Van Cauwenberge, P., Vander Bauwhede, H., 2021. The impact of B Corp certification on growth. Sustainability 13 (13), 7191. https://doi.org/10.3390/ su13137191.
- Pedersen, E.R.G., Gwozdz, W., Hvass, K.K., 2018. Exploring the relationship between business model innovation, corporate sustainability, and organisational values within the fashion industry. J. Bus. Ethics 149 (2), 267–284. https://doi.org/ 10.1007/s10551-016-3044-7.
- Pelikánová, R.M., Němečková, T., MacGregor, R.K., 2021. CSR statements in international and Czech luxury fashion industry at the Onset and during the COVID-19 pandemic—slowing down the fast fashion business? Sustainability 13 (7), 3715. https://doi.org/10.3390/su13073715.
- Phan, T.T.H., Tran, H.X., Le, T.T., Nguyen, N., Pervan, S., Tran, M.D., 2020. The relationship between sustainable development practices and financial performance: a case study of textile firms in Vietnam. Sustainability 12 (15), 5930. https://doi. org/10.3390/su12155930.
- Poponi, S., Colantoni, A., Cividino, S.R., Mosconi, E.M., 2019. The stakeholders' perspective within the B Corp certification for a circular approach. Sustainability 11 (6), 1584. https://doi.org/10.3390/su11061584.
- Porter, M.E., Kramer, M.R., 2011. Creating shared value. Harv. Bus. Rev. 63–77. https:// doi.org/10.1108/09600039410055963.
- Prasad, B.D., 2008. Content analysis. Research methods for social work 5, 1-20.
- Provin, A.P., de Aguiar Dutra, A.R., 2021. Circular economy for fashion industry: use of waste from the food industry for the production of biotextiles. Technol. Forecast. Soc. Change 169, 120858. https://doi.org/10.1016/j.techfore.2021.120858.
- Provin, A.P., de Aguiar Dutra, A.R., Machado, M.M., Cubas, A.L.V., 2021. New materials for clothing: rethinking possibilities through a sustainability approach-A review. J. Clean. Prod. 282, 124444 https://doi.org/10.1016/j.jclepro.2020.124444.
- Riolfo, G., 2020. The new Italian benefit corporation. Eur. Bus. Organ Law Rev. 21 (2), 279–317. https://doi.org/10.1007/s40804-019-00149-9.
- Romolini, A., Fissi, S., Gori, E., 2014. Scoring CSR reporting in listed companies–Evidence from Italian best practices. Corp. Soc. Responsib. Environ. Manag. 21 (2), 65–81. https://doi.org/10.1002/csr.1299.
- Ronchi, E., Leoni, S., Vigni, F., Pettinao, E., Barucci, V., Galli, L., Sbaffoni, S., Beltrani, T., Cortesi, S., Fantin, V., Corrado, S., Eboli, F., Scrucca, F., Sabia, G., Langone, M., Bevivino, A., Cutaia, L., Brunori, C., 2021. Rapporto sull'Economia Circolare in Italia-2021. Circular Economy Network. Available at: https://circulareconomynet work.it/wp-content/uploads/2021/03/3°-Rapporto-economia-circolare_CEN.pdf.
- Sathish, M., Madhan, B., Sreeram, K.J., Rao, J.R., Nair, B.U., 2016. Alternative carrier medium for sustainable leather manufacturing-a review and perspective. J. Clean. Prod. 112, 49–58. https://doi.org/10.1016/j.jclepro.2015.06.118.
- Shirvanimoghaddam, K., Motamed, B., Ramakrishna, S., Naebe, M., 2020. Death by waste: fashion and textile circular economy case. Sci. Total Environ. 718, 137317 https://doi.org/10.1016/j.scitotenv.2020.137317.
- Silva, V., Lima, V., Sá, J.C., Fonseca, L., Santos, G., 2022. B impact assessment as a sustainable tool: analysis of the certification model. Sustainability 14 (9), 5590. https://doi.org/10.3390/su14095590.
- Sole 24 Ore. Sole 24 ore. https://www.ilsole24ore.com/art/l-anno-azzoppato-moda-covi d-19-erode-fino-30percento-fatturati-ADWtVIP.
- Sousa-Zomer, T.T., Magalhães, L., Zancul, E., Campos, L.M., Cauchick-Miguel, P.A., 2018. Cleaner production as an antecedent for circular economy paradigm shift at the micro-level: evidence from a home appliance manufacturer. J. Clean. Prod. 185, 740–748. https://doi.org/10.1016/j.jclepro.2018.03.006.

Stemler, S.E., 2015. Content Analysis. Emerging Trends in the Social and Behavioral Sciences: an Interdisciplinary, Searchable, and Linkable Resource, pp. 1–14. Thorisdottir, T.S., Johannsdottir, L., 2020. Corporate social responsibility influencing

- Thorisdottir, T.S., Johannsdottir, L., 2020. Corporate social responsibility influencing sustainability within the fashion industry. A systematic review. Sustainability 12 (21), 9167. https://doi.org/10.3390/su12219167.
- Tunn, V.S., Bocken, N.M., van den Hende, E.A., Schoormans, J.P., 2019. Business models for sustainable consumption in the circular economy: an expert study. J. Clean. Prod. 212, 324–333. https://doi.org/10.1016/j.jclepro.2018.11.290.
- Vu, T., Nguyen, N., Nguyen, X., Nguyen, Q., Nguyen, H., 2020. Corporate social responsibility, employee commitment, reputation, government support and financial performance in Vietnam's export textile enterprises. Accounting 6 (6), 1045–1058. https://doi.org/10.5267/j.ac.2020.7.015.
- Wu, W., Liu, Y., Chin, T., Zhu, W., 2018. Will green CSR enhance innovation? A perspective of public visibility and firm transparency. Int. J. Environ. Res. Publ. Health 15 (2), 268. https://doi.org/10.3390/ijerph15020268.
- Yang, S.J., Jang, S., 2020. How does corporate sustainability increase financial performance for small-and medium-sized fashion companies: roles of organizational values and business model innovation. Sustainability 12 (24), 10322. https://doi. org/10.3390/su122410322.