

**USE OF THE MEASUREMENT OF SOCIAL IMPACT IN HYBRID COMPANIES: EUROPEAN  
B CORPS**

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## **Use of the measurement of social impact in hybrid companies: European B Corps**

### **ABSTRACT**

This paper focuses on perceptions of the usefulness of measuring social and environmental impacts for the managers of sustainable hybrid organisations (SHO), specifically in B Corps as an example of this kind of hybrid business. Our results show that the measurement of the impact is mainly used for users externally, and to a lesser extent for internal purposes of the company itself. One of the contributions of the paper, compared with previous literature, arises from that fact that the sample results can be extrapolated to the whole population of European B Corps.

## 1. Introduction.

Under the current paradigm of sustainability, a multitude of organisations have emerged which incorporate a social mission into the traditional market logic, combining both to a greater or lesser extent and in a difficult balance.

For these entities, which adopt different legal forms and which are named in multiple ways (social businesses, hybrid businesses, sustainable hybrid organisations, etc.), creating value involves both generating a societal impact (social and environmental) and achieving minimum economic performance for their survival, attempting to balance the pressures of both aspects (Haigh and Hoffman, 2014). In this context, the need to measure social impact arises with force, since social value makes traditional reporting unsuitable for demonstrating the benefits these entities bring to society (Nigri and Del Baldo, 2018). As a response, they begin to spread measurement systems which arise from the professional field while measurement of the impact is a subject of growing interest from the scientific community.

Most literature on the topic analyses to what extent the measurement of impact does or does not improve the financial performance of the organisation and whether it serves for legitimising their social mission before society. However, there are no studies which address the usefulness of this information from the perspective of one of the main users, managers, who also have a decisive role in the selection and implementation of the social impact measurement system. This paper sheds light on this aspect.

This paper focuses on perceptions of the usefulness of measuring social and environmental impacts for the managers of sustainable hybrid organisations (SHO), especially B Corps as an example of this kind of hybrid business.

The results evidence that managers consider measurement of impact to be useful mainly for users externally, and to a lesser extent for internal purposes of the company itself. That is, in a certain way, the managers equate the usefulness of the impact measurement system with the financial accounting system, both oriented toward satisfying the information needs of external users. These results are especially interesting because they add an argument to the need for regulating the disclosure of this information externally, and are aligned with the intense standardisation efforts currently being carried out by both the European Financial Advisory Group (EFRAG) and the International Sustainability Standards Board (ISSB), to generate comparable sustainability information.

Various contributions are made by this paper. Firstly, it has implications for managers, because it reinforces the idea of the importance of the impact measurement system as an element for generating complementary information to that generated by the financial accounting system. That is, the impact information supplements the content of the financial statements and adapts better to the needs of current stakeholders in decision making. It also contributes to improving understanding of non-financial information needs and expectations at a key time for the standardisation of sustainability information, serving the interests of regulatory bodies. Accounting standardisation requires a conceptual framework as a first step based on the information needs of a series of identified users. This work contributes the perceptions of the managers of companies that implement an impact measurement system to obtain a quality seal (the B Corp certification).

Hereafter, the work is structured in the following way: in section 2) the theoretical framework is presented, addressing the concept of hybrid organisations, how the B Corp fits into them, the need for measurement of impact in this type of organisation and its usefulness in decision making; in section 3) the sample, data and methodology are described; in section 4) the results are presented; and finally, in section 5) the discussion of the results and conclusions are presented.

## 2. Theoretical Framework

### 2.1 Sustainable hybrid organisations (SHO)

Sustainable development is a universal concept that for companies entails a much more proactive behaviour in their commitment to the environment and society (Markman and Krause, 2016). It means moving from the current prevailing *win-win* management approach in business, to another one based on the triple bottom line and the minimisation of negative impacts (Hahn et al., 2010), toward prioritising the creation of positive impact in critical and relevant areas for society and the planet (Markman and Krause, 2016). According to these authors, sustainability is about transcending the *do-no-harm* perspective to embracing a *do-good* approach in business. At the forefront of addressing this challenge in the 21<sup>st</sup> century are social businesses hybrids (Santos et al. 2015). Hybrids are built on the assertion that neither traditional for-profit or non-profit models adequately address the social and environmental problems we currently face (Haigh & Hoffman, 2012). For that reason we are faced with a wide spectrum of organisations with multiple organisational and legal forms behind interchangeable umbrella labels (Battilana and Lee, 2014) such as “social enterprise” (Defourny and Nyssens, 2010; Santos et al. 2015) or “sustainable hybrid organisations” (Haigh and Hoffman, 2012).

Sustainable hybrid organisations (SHO) are organisations that run commercial operations with the goal of addressing a societal problem, thereby adopting a social or environmental mission that is vitally important but which must also be financially viable. In doing so, the major challenge they face is to align activities that generate profits with activities that generate impact (Haigh et al., 2015; Santos et al. 2015). In this sense, they are organisations that try to create value not only for their shareholders but for the communities they serve and for society in general, under a philosophy that can be explained well by stakeholder theory (Kim, 2020). According to this theory, purpose-driven companies need to create value for all stakeholders, which are interdependent. Thus, meeting the needs of all them is what should maximise the company's value (Freeman and Dmytriyev, 2017). A good way to communicate this value, which is what ultimately shows the company's social consciousness, is to achieve a widely recognised certification for socially responsible operations (Kim, 2020), such as the one provided to B Corps.

To measure progress, sustainable hybrid organisations need to measure beyond financial value. Otherwise, many decisions are made at the cost of the social and natural environment. Measuring social and environmental impacts has positive consequences for SHO according to previous literature: it supports their decision making processes on planning and control (Nigri & Del Baldo, 2018), allows a differentiation strategy to be adopted (Hynes, 2009; Lee and Jay, 2015), provides long-term competitive advantages (Santos et al., 2015) and certain sustainability credibility to external stakeholders (Chauhan and O'Neill, 2020; Paelman et al. 2021), as well as serving as a process that calls for internal reflection and organisational learning (Ebrahim, 2005; Cabedo et al., 2018). However, it is not without problems (Santos et al., 2015; Kickul & Lyons, 2012; Ormiston & Seymour, 2011; Jay, 2013; Haigh & Hoffman, 2014). Thus, measurement systems are often time and labour intensive, costly (Luke, Barraket, & Eversole, 2013) and relatively complex to carry out, and final results are difficult to interpret because there is also substantial confusion regarding the terms “outcome” and “impact” (Liket et al., 2014). *“Measuring outputs and outcomes can be misleading about progress overall. One outcome may be achieved at the expense of another”* (Camp, 2020). This explains why many organisations that are considered “social organisations” do not measure or quantify the impact they generate. By contrast, among the companies that do quantify their impacts with a uniform and transparent methodology are the B Corps (B Corporation, 2021).

## 2.2 B Corps

B Corps are one of the most recent business models, an example of these organisations pursuing aligning profit with societal impact while prioritising social and environmental results (Stubs, 2017). They are a new for-profit organisational form with a strong social consciousness (Blasi & Sedita, 2022) since they use market-based approaches to address social and environmental issues. B Corps are compelled to measure their societal and environmental impact by using the B Impact Assessment (BIA) questionnaire (developed by B Lab) and also to make it visible through voluntary certification (B Corporation, 2021). A certified B Corp is not a specific legal entity but rather a member of a voluntary association that must meet rating standards based on the assessment of its impacts in several key areas of business: governance, workers, community, customers, and the environment (Kim et al. 2021; Blasi & Sedita, 2022).

For the purpose of this research, B Corps are relevant for several reasons. Firstly, because achieving B Corp certification implies the recognition of belonging to the category of hybrid organisations. The B Corp movement works under the vision that companies should “be not just best in the world but also best for the world” (B Corporation, 2021). Secondly, they are social organisations that assess the impact they create. To be certified, companies must implement a broad process to measure their impacts in different areas (governance, workers, community, customers, and the environment) (B Corporation, 2021; Kim et al. 2021). They need to achieve a score of 80 out of 200 possible points. Finally, evidence shows that this emergent business model is increasingly prevalent in the organisational landscape (Patel & Dahlin, 2022) and is also a recent and growing area of academic interest (Blasi & Sedita, 2022).

## 2.3 Social impact in SHO

All activities carried out by for-profit, non-profit and hybrid organisations produce a social impact (Costa & Pesci, 2016). In the current paradigm, based on the sustainability of businesses, this means that for decision making, organisations require not only financial information (Schaltegger et al., 2017), but also adequate information on the environmental and social impacts generated. That is, to measure progress, financial value and social value should be measured. Without both, one may be increased at the cost of the other, and this is especially relevant when it comes to purpose-driven organisations or SHO. All of this allows different options to be compared, deciding on them based on their effect on sustainability. In this sense, scientific evidence highlights that mainly in SHO and non-profits, there is awareness of the need to offer stakeholders information on the impact generated by the activities carried out (Espostio et al. 2021, Arvidson & Lyon, 2014). In turn, the literature also sets out the interest awakened among academics in elaborating on the aspects related with measurement of social impact of SHO and their integration in the management system (Nigri & Del Baldo, 2018). According to Grieco et al. (2015), measurement of added value, especially in terms of social change, plays an important strategic role by allowing it to be understood to what extent these organisations have achieved their social mission. In addition, it helps the various stakeholders involved to acknowledge SHO legitimacy (Luke et al., 2013) and also provides visibility for the achievements made (Nicholls et al, 2012). It must not be forgotten that these organisations must integrate the social and environmental objectives in a commercial business model. According to Gamble et al. (2019), the SHO which integrate these aspects in their mission better are those which have a greater likelihood of generating a greater social impact (Gamble et al, 2019). However, today impact measurement still presents challenges that should not be overlooked, and comparability is one of them. Thus, the existence of a wide variety of measurement tools (Kah & Akenroye, 2020; Perrini et al., 2020; Cerioni & Marasca, 2021 and Grieco, 2015)<sup>1</sup>, the diverse characteristics shown by the different models (e.g. some tools express qualitative information, others quantitative and qualitative, and others offer

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<sup>1</sup> These authors carry out a review of the different social impact measurement models

monetisation of the impact), and the fact that each stakeholder has a different perception of what the impact must be and the objectives for evaluating it (Sonpar et al. 2010, Liket et al., 2014), makes it difficult to compare the resulting information between organisations (Nicholls, 2009), interfering with decision making. In response to this situation, some initiatives have emerged suggesting a “golden standard” methodology and metric such as the European Commission and its GECES sub-group on impact measurement (Clifford, 2015; Costa & Pesci, 2016). Authors such as Liket et al. (2014), however, are critical of this standardisation approach, considering it to mainly respond to the demands of some stakeholders (government and larger philanthropic funders) more thoroughly in the evaluation methods, but that not all stakeholders have the same information needs. This demonstrates that the conceptual framework (if there is one) in which the myriad of impact measurement initiatives and methodologies applied by professionals is not a trivial aspect, because it focuses the resulting information, so that it does not fulfil the information expectations of all stakeholders. It will depend on the perceptions of the usefulness of the impact measurement of the different stakeholders involved.

#### 2.4 Impact measurement and decision making

An adequate management system requires the establishment of sustainability indicators which allow the calculation of social impact, demonstrating the benefit for society (Alexander et al. 2010, Mitchell, 2013) and which serve administrators (Luft and Shields, 2003) and other external stakeholders for decision making (Adams 2002). For example, Luke et al. (2013) indicate that these performance indicators may be used both to evaluate past performance and to plan for the future.

In general, the managerial accounting literature highlights several arguments representing incentives for companies to develop impact measurement systems:

- 1) Economic motivations. Proper performance measurement systems help managers to improve their companies' social performance and, indirectly, the bottom line which suggests an economic motivation as an incentive for managers to invest in a performance measurement system that isolates and quantifies the costs, benefits and operating results of companies' social strategies (Lisi, 2018)
- 2) Ethical and legitimacy motivations. The perceived concern of stakeholders for social responsibility issues represents a strong incentive for firms to integrate social criteria into their performance measurement systems (Ferreira and Otley 2009).

In addition, the literature on the topic also provides evidence that managers and companies can interpret the relevance of sustainability reporting as subordinate to a logic of shareholder value maximisation. In this vein, Delmas and Burbano (2011) and Laufer (2003) call attention to the potential misleading use of this information to continue improving financial results. They show that certain organisations may be more interested in offering indicators simply to create an unrealistic image of social and environmental awareness when their activities are not consistent with this (greenwashing).

B Corps have a management system where impact measurement is included based on a perfectly standardised and universal process (“golden standard”), as implementing this metric is necessary to obtain the certification. This measurement system designed by B-Lab is crucial for these companies when creating loyal relationships with clients, in addition to improving brand awareness (Vázquez-Maguirre and Benito, 2022), increasing legitimacy (Lortie et al, 2022), increasing transparency in communication (Liute and De Giacomo, 2022), and limiting the possibility of undertaking social and environmental initiatives aimed at greenwashing (Stecker, 2016, Seele and Schultz, 2022). It is for this reason that measurement of social impact has significant advantages for these organisations, as set out in the literature. It is notable that it helps

to show stakeholders the effectiveness of the activities, generating a larger competitive advantage in bidding for contracts in the public sector and the granting of subsidies (New Economics Foundation, 2004 and Lee and Huang, 2018); improving the operability of the activities and control of organisations (Arvidson and Lyon 2014); contributing to better positioning and good reputation of the organisation (Zamagni et al, 2015); and increasing the productivity of workers (Oswal et al. 2013). However, not all aspects related to measurement of social impact are benefits. Liston-Heyes & Lu (2021) indicate that for some social companies, measuring social impact may be excessively costly and may divert resources from other key activities of the organisation.

Taking into account the advantages which, according to the literature, involve the measurement of social impact in hybrid organisations, and in particular in B Corps, an issue which must be explored is that related with the extent to which this measurement is used within the decision making process of the company, for management purposes. This is precisely the research question that is posed in this work.

### **3. Research design.**

To respond to this question, a set of information has been collected through a questionnaire for European B Corps (see next section). This questionnaire included a specific section on the use of impact indicators in these companies. The scales used to measure this use have been taken from Lisi (2018), creating the scales based on those of Ittner and Larcker (2001), Gerdin (2005) Perego and Hartmann (2009) and Banerjee et al. (2013). The scales have therefore already been validated.

#### **3.2 Sample selection and data**

The data used in this study was obtained through a questionnaire for European B Corps. Before sending it, a pre-test of the questionnaire was carried out in which two experts and the manager of B Lab Spain participated.

We relied on the information from the Impact Data on Certified B Corporations data set, which is available at data.world, to identify European certified B Corp firms. This dataset contains an updated list of the whole set of certified B Corp firms all over the world with their certification data. Specifically, we considered the European companies that had obtained their B Corp certification by the 31<sup>st</sup> of July 2021. The survey was conducted by using an online questionnaire sent to the firms in the database, which was carried out by a polling company. The questionnaire was written in Spanish and translated into Italian, French, Spanish, and English.

The questionnaire was pre-tested with two experts and the country manager of B Lab Spain. Next, we addressed the questionnaire to the general manager, sustainability manager or equivalent position. They were first contacted by email and/or the professional networking site LinkedIn and were invited to participate in the research. In the case of not responding within 15 days, two reminders and a telephone call were made.

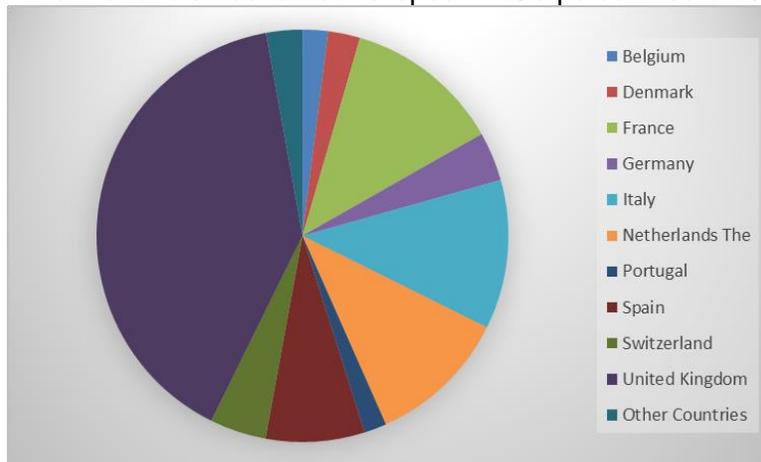
Data gathering was carried out between August 2020 and October 2021. The long period of time is justified for two reasons: (1) the complexity of the process and the difficulties of contacting respondents, since the survey was addressed to several countries and in different languages; (2) the pandemic situation, which, in many cases, made responding to any study survey a lower priority for companies.

The initial database was made up of 621 companies (those certified up to 12/31/2019). Subsequently, and given the low levels of response, which could be justified based on the complexity of the process, the database was expanded with certified companies that were added to the data set after the date indicated above.

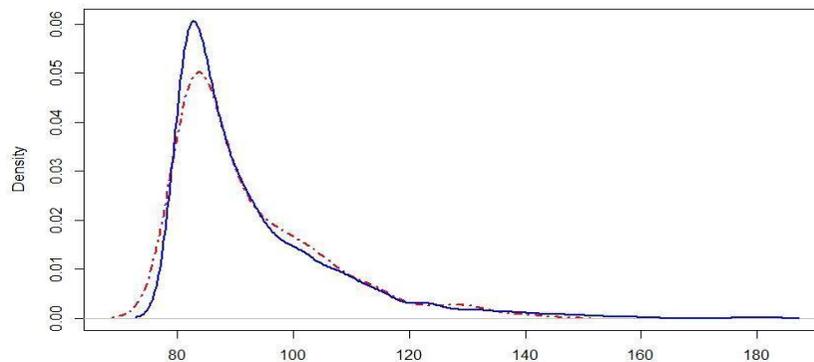
A total of 182 responses were received, of which 20 were discarded, as 17 were incomplete and 3 were wrong contacts. The final sample was formed by 162 companies. Since we considered the European certified B Corp companies up to the 31<sup>st</sup> of July 2021 and there were 1197 certified B Corp firms in the data.world data set by that date, it is a response rate of 13.5%.

Of this total population of European certified companies (1197), the majority were located in 10 countries: Belgium, Denmark, France, Germany, Italy, the Netherlands, Portugal, Spain, Switzerland and the United Kingdom (see figure 1).

**Figure 1:** Territorial distribution of European B Corps certified on 31/7/2021



**Figure 2:** Density functions for sample (dotted line) and population



With the purpose of determining whether there was any bias in the responses received, a parameter was used as a reference which is known for both the companies that responded and for all European B Corporations: the impact index. Specifically, the distribution of this impact index has been compared between the population and sample. The data was obtained from B Lab> B Corp Impact data (<https://data.world/blab/b-corp-impact-data>). In figure 2 both distributions are shown.

As can be observed in figure 2, the distributions are practically superimposed, therefore, a priori, significant differences are not expected. In all cases, to confirm this circumstance, the Kolmogorov-Smirnov test has been carried out, determining whether the distance between the distribution functions of the two populations (or between the population and sample) is statistically significant or not. Specifically, the null hypothesis is that the distance is not significant, and the

alternative hypothesis is that it is. The results are shown in table 1 where it can be observed that the null hypothesis is not rejected and that the conclusion is therefore that both distributions match. That is, no bias has been detected in the responses received.

**Table 1:** two-sample Kolmogorov-Smirnov test

Distance	p-value
D = 0.032689	p-value = 0.9978

The number of responses received (165) entails, for 95% reliability, a maximum error of 2.1% in the inference made.

### 3.3 Methodology

As a step prior to analysis of the data on impact obtained from the completed questionnaire, the companies that make up the sample are characterised based on certain generic variables collected from the responses of the companies: size, country and sector.

Below, an inferential analysis is carried out on the use of the social impact indicators by the European B Corps. It must not be forgotten that, as presented in the previous section, the characteristics of the population (European B Corps) in relation with the impact, may be inferred from the data collected in the sample, with 95% reliability and a maximum error of 2.1%. In this sense, the use of impact indicators is inferred for the twelve aspects about which the companies were asked.

Finally, with the purpose of identifying the purposes for which the impact indicators are largely used, a factor analysis is carried out. The suitability of the data for this type of analysis is checked, as usual, by calculating the determinant of the correlation matrix and the Kaiser-Meyer-Olkin test and Bartlett's test of sphericity.

To determine the number of factors (according to Lloret-Segura et al., 2014, Hayton et al., 2004, Lorenzo-Seva and Ferrando, 2013, Peres-Neto et al., 2005 and Velicer et al., 2000) various classic and objective criteria were used: number of eigenvalues greater than 1 (classic criteria), parallel analysis, and the 'minimum average partial test' (MAP).

The estimation of the factors has been carried out by the maximum likelihood method. The consistency of the solution obtained has been checked by calculating Cronbach's alpha for each one of the estimated factors. Additionally, in order to clearly determine the variables associated with each one of these factors, a varimax rotation has been carried out.

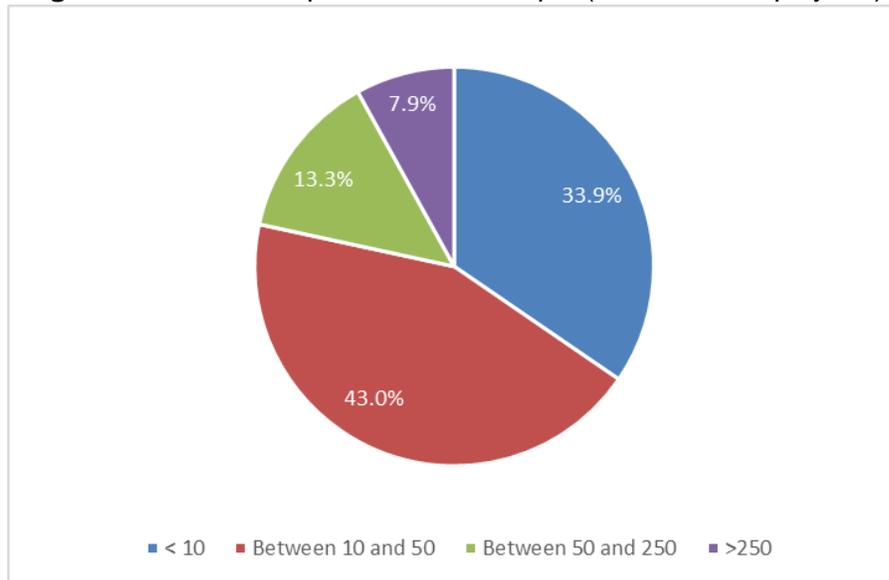
Finally, the greater or lesser use of quantitative impact indicators (measurements) for one purpose or another has been analysed by two methods: based on the average of the values of the variables associated with each one of the factors; and based on the factor scores of these factors. In the latter case, to determine the factor scores, the Anderson-Rubin method has been used, a modification of the Bartlett method, which ensures the orthogonality of the estimated factor scores.

## 4. Results

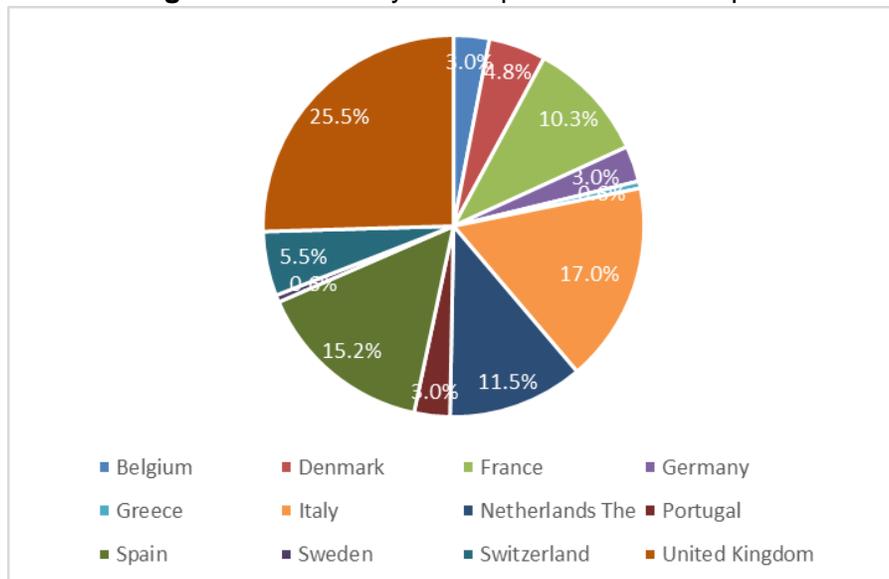
### 4.1 Characterisation of European B Corps

As a step prior to analysis of the results, the companies that responded to the questionnaire have been classified based on three aspects: size, nationality and sector. The size has been measured by number of employees. In figure 3, the distribution of the companies is shown based on their size. As can be seen in this diagram, the majority are small companies (between 10 and 50 employees, 43%) or microenterprises (fewer than 10 employees, 33.9%). 13.3% are medium sized companies (between 50 and 250 employees) and only 7.9% are large companies (over 250 employees). That is, the population of B Corps is mostly made up of small companies.

**Figure 3:** Size of companies of the sample (number of employees)



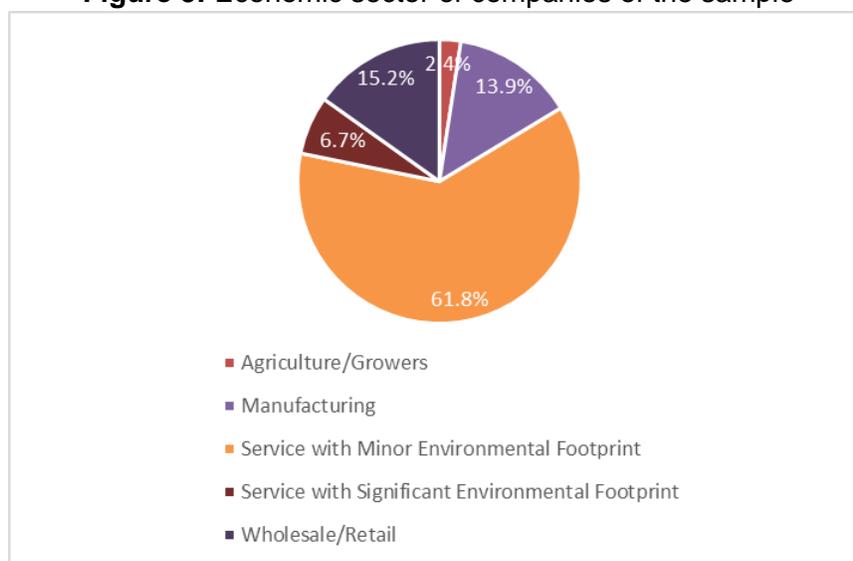
**Figure 4:** Nationality of companies of the sample



With regard to the origin of the companies (nationality), figure 4 shows that responses have been received from a total of 12 European countries. The majority correspond to the United Kingdom, which is the country in which the largest number of certified B Corps are concentrated. It is followed by Italy, Spain, the Netherlands and France, countries which, after the United Kingdom, have the largest number of B Corps.

Finally, and with regard to the economic sector, practically 70% of the companies belong to the service sector; 15.2% are commercial companies; 13.9% are manufacturers; while only 2.4% are agribusinesses (see figure 5).

**Figure 5: Economic sector of companies of the sample**



In summary, European B Corps are mostly small businesses, concentrated in a small number of countries and undertaking activity mainly in the service sector.

#### 4.2 Inferential analysis

As shown above, from the responses received, it can be statistically inferred for what purposes the European B Corps use the impact measurement indicators. Table 2 summarises the results obtained. It shows descriptive statistics on the variables analysed (mean, standard deviation, first and third quartiles and frequency).

As can be observed European B Corps use their impact measurement indicators mainly to establish strategic objectives, to provide information to the public on the company website, by telephone calls or press releases, to prepare and publish the corporate financial report and/or sustainability report of the company, and to define rules for the selection/retention of external suppliers. All these items obtain an average rating of over 5 on a scale of 1 to 7. The greater perceived usefulness corresponds to strategic purposes (P25\_3). Conversely, the purpose for which the impact indicators are used to a lesser extent is that of providing information to analysts and/or rating agencies.

The above allows the nature of the purposes for which the B Corps use their impact indicators to be understood. Nevertheless, to classify and synthesise these purposes in a smaller number of items, an exploratory factor analysis is carried out.

**Table 2: Use of the impact measurement indicators**

Variable	Average	Standard deviation	1 <sup>st</sup> quart	3 <sup>rd</sup> quart	Observations
P25_3	5.68	1.27	5	7	158
P25_9	5.56	1.46	5	7	159
P25_8	5.33	1.50	4	6	160
P25_6	5.33	1.30	5	6	159
P25_5	5.03	1.60	4	6	160
P25_7	4.81	1.46	4	6	160
P25_4	4.60	1.77	4	6	160
P25_1	4.08	1.94	2	5	161
P25_12	4.01	2.04	2	6	156
P25_11	3.96	2.05	2	6	157
P25_2	3.64	1.91	2	5	160
P25_10	3.37	1.90	1	5	160

Meaning of the variables (minimum and maximum values: 1 and 7 respectively). To what extent the company uses the social impact measurement indicators to:

P25.1: Evaluate the performance of managers

P25.2: Incentivise and compensate managers (for example, to determine salary increases, to establish annual bonuses and/or for promotion in the company)

P25.3: Establish strategic objectives

P25.4: Evaluate and approve investments

P25.5: Make decisions on products (for example, prices, range or development of new products)

P25.6: Define rules for selection/retention of external suppliers

P25.7: Daily management and operating decisions (for example, evaluating the options between purchasing or manufacturing, or evaluating the manufacturing process to be used)

P25.8: Prepare and publish the corporate financial report and/or the sustainability report of the company

P25.9: Provide information to the public on the company website, by telephone calls or press releases.

P25.10: Provide information to analysts and/or rating agencies

P25.11: Provide information to the administration to comply with current legislation

P25.12: Provide information to the population of local communities and NGOs

### 4.3 Factor analysis

Table 3 shows the correlation matrix between the variables used to measure the degree of use of the impact indicators for the different purposes.

**Table 3: Correlation matrix**

Variable	P25_1	P25_2	P25_3	P25_4	P25_5	P25_6
P25_1	1.000	0.651	0.217	0.321	0.306	0.084
P25_2	0.651	1.000	0.252	0.486	0.438	0.229
P25_3	0.217	0.252	1.000	0.484	0.548	0.361
P25_4	0.321	0.486	0.484	1.000	0.616	0.323
P25_5	0.306	0.438	0.548	0.616	1.000	0.515
P25_6	0.084	0.229	0.361	0.323	0.515	1.000
P25_7	0.208	0.384	0.398	0.476	0.530	0.555
P25_8	0.205	0.171	0.352	0.263	0.398	0.132
P25_9	0.205	0.190	0.477	0.375	0.464	0.233
P25_10	0.348	0.396	0.028	0.157	0.178	0.102
P25_11	0.229	0.303	0.087	0.246	0.180	0.075
P25_12	0.285	0.298	0.296	0.291	0.356	0.144
Variable	P25_7	P25_8	P25_9	P25_10	P25_11	P25_12
P25_1	0.208	0.205	0.205	0.348	0.229	0.285
P25_2	0.384	0.171	0.190	0.396	0.303	0.298
P25_3	0.398	0.352	0.477	0.028	0.087	0.296
P25_4	0.476	0.263	0.375	0.157	0.246	0.291
P25_5	0.530	0.398	0.464	0.178	0.180	0.356
P25_6	0.555	0.132	0.233	0.102	0.075	0.144
P25_7	1.000	0.335	0.314	0.224	0.236	0.329
P25_8	0.335	1.000	0.581	0.202	0.286	0.380
P25_9	0.314	0.581	1.000	0.276	0.266	0.448
P25_10	0.224	0.202	0.276	1.000	0.559	0.513
P25_11	0.236	0.286	0.266	0.559	1.000	0.604
P25_12	0.329	0.380	0.448	0.513	0.604	1.000

Meaning of the variables: See table 2

As can be observed in table 3, there are correlations above 30%, which indicates, a priori, that factor analysis techniques can be implemented on the variables. To confirm this, we calculate the determinant of this correlation matrix, Bartlett's test of sphericity and the Kaiser-Meyer-Olkin (KMO) test. The results are shown in table 4.

**Table 4:** Factor analysis. Preliminary tests

Test	Result	p-value
Determinant of the correlation matrix	0.006578509	Not applicable
Bartlett's test of sphericity	90.18	1.537e-14
Kaiser-Meyer-Olkin (KMO) test	0.81	Not applicable

As can be observed in table 4, the value of the determinant of the correlations matrix (near 0) indicates high multicollinearity between the variables, therefore factor analysis based on this indicator is applicable. Bartlett's test of sphericity indicates the same: the null hypothesis that the variables are not correlated is rejected. Finally, the value of the KMO statistic, over 0.5, confirms the suitability of a factor analysis for the data worked with.

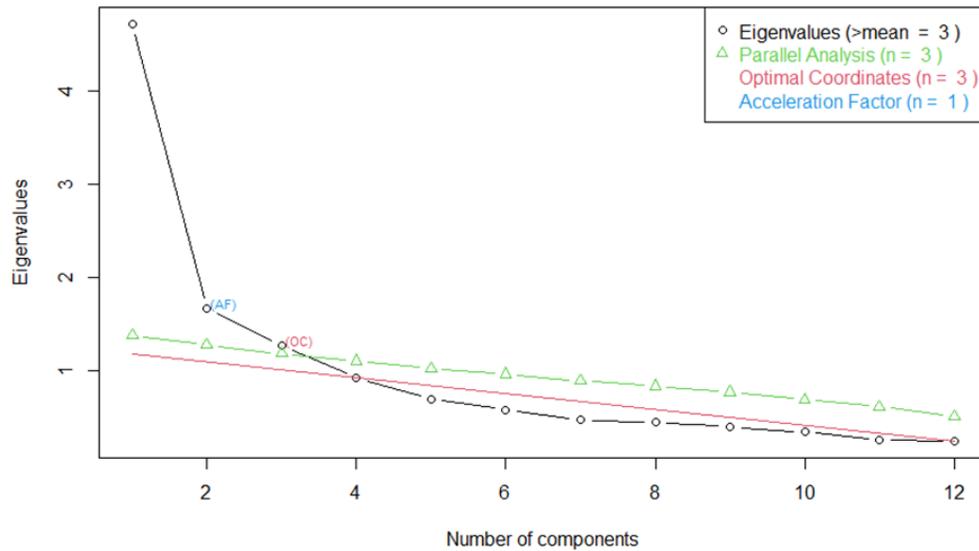
**Table 5:** Eigenvalues and proportion of variance explained

Factor	Eigenvalues	Proportion of Variance	Cumulative Prop. Variance
Factor 1	4.63	0.39	0.39
Factor 2	1.75	0.15	0.53
Factor 3	1.31	0.11	0.64
Factor 4	0.98	0.08	0.72
Factor 5	0.65	0.05	0.78
Factor 6	0.55	0.05	0.82
Factor 7	0.47	0.04	0.86
Factor 8	0.40	0.03	0.90
Factor 9	0.37	0.03	0.93
Factor 10	0.35	0.03	0.96
Factor 11	0.29	0.02	0.98
Factor 12	0.25	0.02	1.00

Once it has been determined that it is appropriate to apply factor analysis techniques, the next step is to determine the number of factors to be extracted. Lloret-Segura et al. (2014) indicate that to identify the number and composition of components necessary to summarise the scores observed in a large set of observed variables, a principal component analysis should be applied, through which the maximum percentage variance observed in each item is explained based on a lower number of components that summarise that information. The classic model for determining this number is the Kaiser rule: the calculation of the eigenvalues, and the selection of both factors and eigenvalues greater than 1 are obtained. In table 5, the eigenvalues and proportion of variance explained for each one are indicated. In accordance with the results of this table, the number of factors to be considered will be 3.

Nevertheless, the authors mentioned previously point out the need to use various objective criteria in this determination of the number of factors, as is the case of the parallel analysis (used by Hayton et al., 2004; Lorenzo-Seva & Ferrando, 2013; Peres-Neto et al., 2005; and Velicer et al., 2000, among others). Figure 6 sets out the result of applying objective criteria for determining this number. This figure confirms that the optimal number is three.

**Figure 6:** Determination of the optimal number of factors



The Kaiser rule is computed as: eigen values higher than 1.  
 The parallel analysis selects the common components or factors which present their own values obtained at random  
 Acceleration Factor: When the slope changes most abruptly (elbow).  
 The optimal coordinates (OC) correspond to an extrapolation of the preceding eigenvalue by a regression line between the eigenvalue coordinates and the last eigenvalue coordinates

Additionally, the number of factors is also three in accordance with the revised minimum average partial test (MAP, Velicer et al., 2000)

Once it has been determined that the number of factors to work with is equal to three, they are estimated applying the maximum likelihood method. For the estimation of these factors, and in general, for all calculations carried out for factor analysis, the 'R' software has been used.

**Table 6:** Cronbach's alpha for the calculated factors

Factor	Cronbach's alpha
Factor 1	0.793
Factor 2	0.823
Factor 3	0.801

The consistency of the solution obtained after the estimation of the factors has been evaluated through Cronbach's alpha. Table 6 details the results achieved for each one of the factors. As can be seen in this table, all values are above 0.65 (additionally, it has been checked that this Cronbach's alpha is reduced by eliminating a variable within each factor), therefore it can be concluded that the solution reached is consistent.

With the above premises, a varimax orthogonal rotation is carried out to be able to better appreciate how the variables and factors correspond. Table 7 sets out the solution reached.

**Table 7:** Result of the factor analysis. Solution with varimax orthogonal rotation

Variable	Factor 1	Factor 2	Factor 3
P25_1	0.611		0.223
P25_2	0.930		0.247
P25_3			0.691
P25_4	0.335		0.622
P25_5	0.239		0.791
P25_6			0.563
P25_7	0.221		0.592
P25_8		0.368	0.459
P25_9		0.392	0.558
P25_10	0.298	0.658	
P25_11		0.743	
P25_12		0.743	0.295

Meaning of the variables: See table 2

As can be observed in table 7, factor 1 is associated with two variables (P25\_1 and P25\_2), Factor 2, with three variables (P25\_10, P25\_11 and P25\_12), and factor three with the rest of the variables.

Taking into account the information synthesised by each one of the factors, we can identify the first of these (Factor 1) as relating to the use of the impact measurement indicators for control purposes. The second factor (Factor 2) can be associated with the use of these indicators for strategic and operational purposes. Meanwhile, the last of the factors (Factor 3) provides information on the use of the impact indicators for informative purposes.

With the objective of determining which of these three uses recorded for the impact measurement indicators has the greatest significance for European B Corps, a double analysis is carried out: firstly, the average of the representative variables of each of the factors is selected as a reference (see table 8). As can be observed in this table, the impact measurement indicators are used to a greater extent for informative purposes (Factor 3); secondly, for control purposes (Factor 1); and finally, although with a score vary close to the previous, for strategic and operational decisions (Factor 2).

Additionally, the factor scores of each one of the factors have been calculated. To do so, we used the Anderson-Rubin method, a modification of the Bartlett method, which ensures the orthogonality of the estimated factor scores. These scores have an average of 0, a standard deviation equal to 1, and are independent from each other. In table 8, the average values for these scores are shown. As can be observed in this table, the ranking taken directly from the data of scores (instead of those of the representative variables) provides the same ranking order: factor 3 is first again, followed by factor 1, with factor 2 in third place.

**Table 8:** Ranking of the purposes for which impact measurement indicators are used

Factor	Factor 1	Factor 2	Factor 3
Average of representative values	3.85	3.77	5.19
Average of the factor score	3.5 E-17	-1.4 E-16	4.87 E-17

In summary, the results show that European B Corps use impact indicators mainly for information purposes, and to a lesser extent for strategic or operational decisions and control purposes.

## 5. Conclusions

The need to use indicators other than financial indicators to measure the performance of hybrid companies has been widely discussed (Ebrahim and Rangan, 2010). Extensive literature has researched indicators on measurement of social impact (Kah & Akenroye, 2020; Perrini et al., 2020; Cerioni & Marasca, 2021) and its advantages (Vázquez-Maguirre & Benito, 2022, Lortie et al, 2022, Liute and De Giacomo, 2022, Stecker, 2016). However, to date it has not yet been analysed what are the usefulness of these social impact indicators from the perspective of company managers. What has been subject to study are the incentives that motivate managers and sustainable hybrid companies to develop impact measurement systems. Researchers point out that motivations can be either economic in nature, i.e. improving social performance and therefore the final result (Lisi, 2018), or ethical, i.e. trying to maintain the legitimacy required by stakeholders (Ferrera and Otley, 2009). The issue is especially pertinent for a collective of hybrid companies, such as B Corps, which are required to measure their social impact in addition to achieving a minimum score to gain their certification.

The purpose of this work is to shed light on the usefulness of measuring social and environmental impacts perceived by B-Corp managers. The study has focused on European companies with the B Corp certification. The data used was obtained from a questionnaire that was answered by 165 companies, which included a series of questions related with the use of impact indicators. The statistical analysis carried out allows the results from the sample to be extrapolated to the whole population: European B Corps, mainly small companies, which carry out their activity in the service sector.

The results obtained show that these companies use the social impact indicators mainly for information purposes, and to a lesser extent for strategic or control purposes. These results are consistent with Lortie et al. (2022) and Liute and De Giacomo (2022), which indicate that the measurement of social performance helps the companies to increase their legitimacy and their transparency. Literature on management accounting indicates that companies need a performance measurement system which reinforces the control system to achieve the strategic objectives set by the company (Kaplan and Norton, 2006). However, in the case of B Corps, which are purpose-driven companies, even indicators of this type are used for strategic and control purposes, they do not do so in a relevant way.

The main contribution of the work lies on the fact that for the first time primary information is used to give an overview of the usefulness of measuring social impact for hybrid companies, specifically B Corps. This study focuses on managers' perceptions. Given that the results show that B Corps use these indicators only to a lesser extent for management purposes, this means that they are running their business mainly with conventional economic-financial indicators.

Future lines of research could more closely examine understanding of the usefulness of the information on social impact in hybrid companies. It could be examined whether the social impact generates some type of competitive advantage. It would also be interesting to more closely examine stakeholders' assessment of the social impact of the company or the relationship between this impact and business performance. The results may be enlightening for both

managers of social companies, and for academics for better understanding of the usefulness of this type of impact indicator for decision making.

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