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Sustainability Business Models for CCSIs

DELIVERABLE 3.3

ASSESSMENT OF TESTING OF THE SUSTAINABILITY ASSESSMENT MODEL FOR CCSIS

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Publishable summary

The CreaSus project developed and tested a Sustainability Assessment Model for Cultural and Creative Sector Industries (CCSIs), designed to help organisations self-assess their Environmental, Social and Governance (ESG) performance and identify areas for improvement.

This document presents the results of the pilot project involving 62 CCSIs from various European countries, characterised by a strong presence of micro-enterprises, private organisations and bodies active in the performing arts and cultural heritage sectors. The results of the self-assessment questionnaire show that CCSIs generally perform better in the social dimension than in the environmental and governance dimensions, confirming their strong social orientation but also highlighting some weaknesses in environmental monitoring and the formalisation of governance. At the same time, the feedback gathered from participants shows that the self-assessment tool was widely perceived as clear, useful and easy to complete, highlighting a high level of acceptance among the participating organisations.

This document also presents a Probit analysis examining whether ESG performance affects the probability of obtaining a sustainability grant. The results show that higher ESG scores are associated with a greater likelihood of accessing public funding, suggesting that sustainability performance can operate as a positive signal for funding agencies. Overall, the findings confirm the value of the model as both a self-assessment instrument and an analytical tool for understanding sustainability dynamics in the cultural and creative sectors.

1. INTRODUCTION

This report builds on Deliverable D2.1, which developed the first version of the Sustainability Assessment Model for Cultural and Creative Sector Industries (CCSIs) and proposed a structured framework for evaluating sustainability performance within the cultural and creative sectors. Based on Environmental, Social and Governance (ESG) dimensions, the model was supported by a set of indicators and assessment questions designed to help organizations self-assess their sustainability practices and identify priority areas for improvement.

The main objective of this deliverable is to evaluate the performance of the model during the pilot phase and establish whether any adjustments are required for its final consolidation. To this end, the report draws on the responses collected from the European pilot organisations that tested the self-assessment sustainable tool, the feedback provided on both the questionnaire and the proposed transformation actions, and the empirical evidence emerging from the ESG score assessment. In addition, the document presents the relationship between the ESG score and the probability of receiving a sustainability grant through a Probit analysis, thus offering a broader assessment of the model's relevance.

2. METHODOLOGY

2.1. Analytic research - ESG index

This research aims to evaluate the sustainability performance of CCSIs participating in the CreaSus pilot project by combining two complementary perspectives: (i) the objective assessment of sustainability level through an ESG score and (ii) the subjective perception of sustainability expressed by organizations through a dedicated perception questionnaire.

The ESG score was developed to provide a standardized measure of sustainability performance across the ESG dimensions. By normalizing the scores of each pillar on a common 0–100 scale and calculating a composite ESG score, the model enables comparisons among organizations operating in different cultural and creative subsectors. The score is intended not only as a self-assessment instrument but also as an analytical tool capable of identifying strengths, weaknesses, and areas requiring improvement.

In parallel, the perception questionnaire investigates how organizations perceive the importance of sustainability, its relationship with economic performance, and the factors that facilitate or hinder the implementation of sustainable practices. Comparing perceived sustainability with actual ESG performance allows the identification of possible gaps between awareness and implementation.

The analytical research seeks to answer the following research questions:

- What is the current level of ESG performance among CCSIs participating in the CreaSus pilot?
- How do organizations perceive sustainability and its role in their activities?
- Is there consistency between organizations' perceptions of sustainability and their measured ESG performance?

The combined analysis of ESG scores and perception indicators provides a more comprehensive understanding of sustainability maturity within the cultural and creative sectors and supports the refinement of the self-assessment sustainable tool developed within the CreaSus project.

2.1.1 ESG score assessment

The self-assessment sustainability tool, as outlined in Deliverable 2.1 – Sustainability Assessment Model for CCSIs, is structured around the environmental (E), social (S), and governance (G) dimensions, in line with the consolidated ESG framework used in empirical research on sustainability performance and firm value (Aboud & Diab, 2018; Atan et al., 2018; Bahadori et al., 2021).

Environmental dimension

The environmental section includes 31 questions, covering resource efficiency, waste management, pollution prevention, sustainability-oriented innovation, environmental certifications, and circular economy practices. These areas reflect the core components of environmental sustainability and eco-innovation identified in the literature on sustainability-oriented innovation and environmental business models (Adams et al., 2016; De Giacomo & Bleischwitz, 2020; Dijkstra-Silva et al., 2022).

Of these, 20 questions are level 1 items and 11 are level 2 items, activated only when specific conditions in level 1 items are met. The maximum achievable score for this section ranges from 19 to 25 points, as not all environmental practices are applicable to every firm. Additional points depend on the adoption of innovative systems aimed at improving energy efficiency, the organization of outdoor events, and the integration of sustainability requirements into outsourced services. This scoring logic is consistent with environmental performance assessment methodologies and sectoral sustainability frameworks (Ekins & Vanner, 2007; Haque & Ntim, 2018).

Social dimension

The social section consists of 33 questions focusing on workforce diversity and inclusion, supplier responsibility, accessibility, engagement with local communities, and initiatives aimed at reducing social inequalities. These aspects correspond to the social pillar of ESG and to stakeholder-oriented perspectives emphasizing social responsibility, inclusiveness, and social impact (Ferrero-Ferrero et al., 2016; Fondevila et al., 2018; Cundill et al., 2018).

Among these, 28 questions are level 1 items and 5 are level 2 items. The maximum achievable score for this dimension ranges from 25.3 to 29 points. Additional points depend on indicators such as the number of employees returning to work after parental leave, specific sustainability clauses in supplier contracts, the measurement of social impact within local communities, and the adoption of accessibility measures for people with disabilities. These elements are coherent with empirical evidence linking social disclosures and social performance to firm value and legitimacy (Aboud & Diab, 2018; Atan et al., 2018).

Governance dimension

The governance dimension includes 20 questions covering management practices, CSR strategies, transparency and anti-bribery policies, executive remuneration, and sustainability disclosure. It consists of 19 level 1 items and 1 level 2 item. The maximum achievable score for this section ranges from 15 to 20 points.

Additional points depend on the adoption of sustainability reporting practices in line with the CSRD or other recognized standards, as well as on governance-related characteristics such as board diversity, the percentage of women on the Board of Directors, the presence of a gender pay gap, and the proportion of independent board members. These aspects are fully consistent with the governance literature highlighting

the role of board composition, transparency, and formal governance mechanisms in shaping ESG performance (Harjoto & Wang, 2020; Amorelli & García-Sánchez, 2021; De Villiers et al., 2016).

Score normalization and ESG index

To ensure comparability across the three ESG dimensions, each pillar score was normalized to a 0–100 scale using the following formula:

$$\left(\frac{achieved\ score}{maximum\ possible\ score}\right) \times 100$$

Finally, the overall ESG index was calculated as the arithmetic mean of the three normalized pillar scores:

$$\left(\frac{E + S + G}{3}\right)$$

2.2. Probit Analysis

Probit analysis is a regression technique used when the dependent variable is binary, that is, when it can take only two values such as 0/1, yes/no, or success/failure (Cameron & Trivedi, 2005; Wooldridge, 2010). It is designed to estimate the probability that an event occurs as a function of one or more explanatory variables, assuming that the underlying latent propensity follows a standard normal distribution (Cameron & Trivedi, 2005; Long, 1997). In this sense, probit models are especially useful whenever the research question concerns the determinants of a discrete outcome (Wooldridge, 2010).

More specifically, probit analysis allows researchers to examine how different factors affect the likelihood of a given event while controlling for other variables in the model (Cameron & Trivedi, 2005). This makes it particularly appropriate for studies in which the dependent variable is dichotomous, and the goal is to identify the main predictors of that outcome. In applied research, probit models are often used in economics, management, and sustainability studies to analyse binary decisions such as adoption, participation, or access to funding (Ikechukwu et al., 2025).

A useful feature of probit analysis is that it not only identifies statistically relevant predictors but also enables the estimation of marginal effects, which help interpret how changes in the explanatory variables modify the predicted probability of the event (Cameron & Trivedi, 2005; Wooldridge, 2010).

In the present study, probit analysis was applied to investigate whether the probability of obtaining a sustainability grant by an organization in the creative and cultural sectors can be explained by a set of business characteristics, such as ESG score, size and geographical location. This is particularly important in policy-oriented research because it allows the results to be translated into practical implications for funding agencies and decision-makers interested in promoting sustainability among creative and cultural

enterprises. Recent research on cultural and creative industries has highlighted the importance of national cultural dimensions, policies, and EU grants in shaping funding outcomes, demonstrating the relevance of rigorous econometric models for understanding these dynamics (Cicchiello et al., 2023). We employ this analysis to assess the validity and usefulness of our ESG score. In this regard, we view a higher probability of getting a grant in the presence of higher ESG scores as evidence that the ESG score captures genuinely important aspects of the firm's orientation towards sustainability.

2.2.1 Why Probit? Scientific justification for the choice of model

The choice of the Probit model as the primary estimation strategy in this study is grounded in three complementary scientific justifications: the nature of the dependent variable, the properties of the underlying data-generating process, and the comparative behaviour of Probit relative to alternative binary response models.

From a distributional standpoint, the Probit model assumes that the observed binary outcome — whether an organization obtains a grant (DummyGrant = 1) or does not (DummyGrant = 0) — is the observable manifestation of a latent continuous variable y^* that captures the organization's "propensity" to receive the grant. Formally, $y^* = X\beta + \varepsilon$, where $\varepsilon \sim N(0,1)$, and DummyGrant = 1 if and only if $y^* > 0$. This latent-variable interpretation is particularly appropriate in the present context, because grant allocation decisions are not purely mechanical but reflect a continuous underlying evaluation by funding agencies of organizational reliability, social legitimacy, and sustainability commitment (Suchman, 1995; Werner, 2015). The normality assumption on the latent error is scientifically defensible when the unobservable component of the grant decision is itself the aggregate of multiple independent factors — evaluator judgment, institutional criteria, documentation quality — a condition under which the central limit theorem provides theoretical support for the Gaussian assumption (Wooldridge, 2010).

A second motivation for the Probit model concerns the properties of the standard Ordinary Least Squares (OLS) estimator when applied to binary outcomes, the so-called Linear Probability Model (LPM). While computationally simple, the LPM is known to produce predicted probabilities outside the [0,1] interval and to generate heteroskedastic errors by construction, since $Var(y|X) = P(X)(1-P(X))$ depends on the regressors (Wooldridge, 2010; Greene, 2018). Both problems are structurally resolved by the Probit model, whose link function — the standard normal cumulative distribution function $\Phi(\cdot)$ — maps any linear combination of regressors into the (0,1) interval, while the Bernoulli likelihood used in maximum likelihood estimation correctly accounts for the binary variance structure. In small samples such as the one used in this study (n=62), these properties are particularly valuable, as LPM-based inference can be severely distorted.

Third, the Probit model is the dominant specification in the institutional and policy-oriented literature on grant access and public funding decisions. Nguyen et al. (2026), whose study provides the primary theoretical reference for this research, explicitly employ a Probit estimator (alongside IV and propensity score matching) to model the probability of receiving CARES Act funds as a function of ESG score and other firm

characteristics. The methodological continuity with this reference study is not merely conventional: it ensures that the estimated coefficients and marginal effects are directly comparable across the two studies, facilitating cumulative scientific inference. Analogously, Cicchiello et al. (2023) use discrete-choice models when analysing funding outcomes in cultural and creative industries, further validating the choice of Probit as the standard tool in this specific research domain.

Finally, the use of robust (Huber/White) standard errors addresses the assumption of homoskedasticity that would otherwise be required by standard maximum likelihood inference in the Probit model. This choice is especially important given the small sample size and the potential presence of unobserved heterogeneity among organizations that differ substantially in sector, geography, and age structure (Cameron & Trivedi, 2005).

2.2.2 Why this research question? Positioning and scientific rationale

The research question that guides this study — whether the probability of obtaining a sustainability grant is influenced by ESG score, sector, age, geographic location, and organizational size — represents a deliberate and scientifically motivated inversion of the causal direction most adopted by the scholar. In the dominant strand of this literature, ESG score is the dependent variable to be explained, and public funding (grants, subsidies, incentives) appears as one of the explanatory factors (Du et al., 2022; Forliano et al., 2022). This perspective asks: does access to public resources improve sustainability performance? The present study instead asks the reverse question: does sustainability performance — as measured by the ESG score — facilitate access to public resources?

This reversal is not arbitrary but is theoretically and empirically justified on three grounds. First, from a theoretical standpoint, both legitimacy theory (Suchman, 1995) and stakeholder theory (Freeman, 1984) predict that organizations with stronger ESG profiles are perceived as more socially legitimate and more aligned with public interests and are therefore preferentially selected by funding agencies operating under conditions of incomplete information. ESG performance acts as a credible signal of organizational quality and commitment, reducing the information asymmetry that characterizes grant selection processes — a mechanism analogous to the role of credit ratings in debt markets (Stiglitz & Weiss, 1981). This signalling mechanism operates regardless of whether ESG investments were originally motivated by grant-seeking behaviour and is therefore analytically prior to the question of whether grants improve ESG performance. Second, from a policy design perspective, understanding the determinants of grant access is more directly actionable than understanding the consequences of receiving grants. Policy makers and funding agencies need to know whether their selection criteria — explicitly or implicitly — reward ESG commitment, and whether the resulting allocation of public resources is systematically biased along sector or geographic lines. A model in which ESG is the outcome cannot answer these questions; a model in which grant receipt is the outcome can.

Third, the choice of Probit as the estimation method is the natural consequence of framing the research question in terms of a probability. If the question were instead

framed as "How much grant funding does ESG performance generate?", the dependent variable would be continuous (grant amount) and OLS or Tobit would be appropriate. But the question as formulated is binary — grant obtained or not — and the scientifically correct way to model the probability of a binary event as a function of continuous and discrete regressors is precisely through a binary choice model such as Probit. The research question, the dependent variable, and the estimation method are therefore mutually consistent and jointly justified.

2.2.3 Development of research hypotheses

The research question guiding this study, as above explained, is the following: can the likelihood that an organization receives a sustainability grant (DummyGrant) be influenced by organizational characteristics, in particular its ESG score, sector, age, geographical location, and size?

This is a predictive–causal research question that inverts the traditional perspective of the ESG literature, which has typically treated the ESG score as the dependent variable to be explained and public funding as an input (Du et al., 2022; Forliano et al., 2022). This study, instead, adopts a more recent perspective, consistent with Nguyen et al. (2026), in which ESG and other organizational characteristics are used as predictors of the organization's ability to access public resources.

The contribution by Nguyen et al. (2026) constitutes the most direct theoretical reference for this study. The authors examine 1,872 U.S. listed firms to test whether ESG performance influences the probability of receiving CARES Act funds during the COVID-19 pandemic. Their results show that a one-standard-deviation increase in the ESG score is associated with an 11.3% increase in the subsidy funds received. Nguyen et al. (2026) theoretically ground this effect on two complementary frameworks:

- **Legitimacy theory** (Suchman, 1995): organizations with strong ESG performance are perceived as socially legitimate and therefore more deserving of public support. ESG acts as a "reputation insurance" that protects firm value during periods of crisis.
- **Stakeholder theory** (Freeman, 1984): ESG signals the firm's commitment to a plurality of stakeholders, including the public administration, thereby reducing information asymmetries in the fund allocation process.

Particularly relevant for our study is the finding that the effect of ESG on the probability of obtaining a grant is more pronounced for organizations that would otherwise be disadvantaged (less visible firms, those operating in more competitive markets, and those located in politically less aligned states). This suggests that ESG plays a compensatory function of particular value for smaller organizations.

Building on the results of Nguyen et al. (2026), which demonstrate that ESG commitment significantly increases the probability for large U.S. listed firms to access public CARES Act funds, we extend this investigation to small European organizations operating in the cultural and creative sectors and formulate the following research hypotheses (H):

- **H1:** A higher ESG score increases the probability of obtaining a sustainability grant.
- **H2:** Sector of belonging, age, geographical location, and size of the organization influence the probability of obtaining a sustainability grant.

2.3 Data and research methodologies

2.3.1 Variable definitions

The variables used in this study are defined in Table 2. The dependent variable is DummyGrant, while the explanatory variables are DummySector, DummyMicro, DummyNorth, ESG score, and Age.

Table 1. Variable definitions

Variables	Description
DummyGrant	Dependent variable indicating whether an organization obtained a sustainability grant
DummySector	Indicates whether the organization belongs to the creative or cultural sector
DummyMicro	Captures company size, distinguishing micro-organizations from small/medium/larger ones
DummyNorth	Indicates the geographical location of the organization, distinguishing firms located in Northern Europe from those located in Southern Europe
ESG score	Calculated as the average of the environmental, social and governance scores (E+S+G)/3
Age	Measures the organization's longevity, based on its year of foundation

2.3.2 Model specification

To test the research hypotheses, a Generalized Linear Model (GENLIN) with a binomial distribution and a Probit link function was employed, as shown below:

$$[P(DummyGrant=1|X)] = \beta_0 + \beta_1 \cdot ESGscore + \beta_2 \cdot DummySector + \beta_3 \cdot Age + \beta_4 \cdot DummyNorth + \beta_5 \cdot DummyMicro$$

The choice of the Probit model is justified by the fact that the use of robust standard errors helps address potential heteroskedasticity issues in a sample of only 62 observations.

As a robustness check, binary logistic regression was also employed:

$$ln[P(DummyGrant=1)/(1-P(DummyGrant=1))] = \beta_0 + \beta_1 \cdot ESGscore + \beta_2 \cdot DummySector + \beta_3 \cdot Age + \beta_4 \cdot DummyNorth + \beta_5 \cdot DummyMicro$$

The combined use of Probit and Logit with identical model specification constitutes a standard robustness test in econometrics: if the results converge in terms of signs, statistical significance, and the ranking of effects, this indicates that the conclusions do not depend on the specific distributional assumption chosen. Both models were estimated using a robust (Huber/White) covariance matrix.

3. DESCRIPTION OF SAMPLE

The results obtained from the answers to the self-assessment sustainable tool in the European pilot companies enabled an initial evaluation of the perception of sustainability and the ESG sustainability levels within the sector.

Based on the collected data, it emerged that 62 of the 81 CCSIs registered to the CreaSus platform (84 including non-EU countries) completed the entire sustainable self-assessment tool, which amounts to a completion rate of 73.8%.

The geographical distribution of the sample (Figure 1) shows a predominance of organizations from Italy (21) and Spain (15), followed by Ireland (9) and Greece (9), with a smaller representation from other countries (Finland, Portugal, Slovenia, Hungary, Belgium, and Estonia).

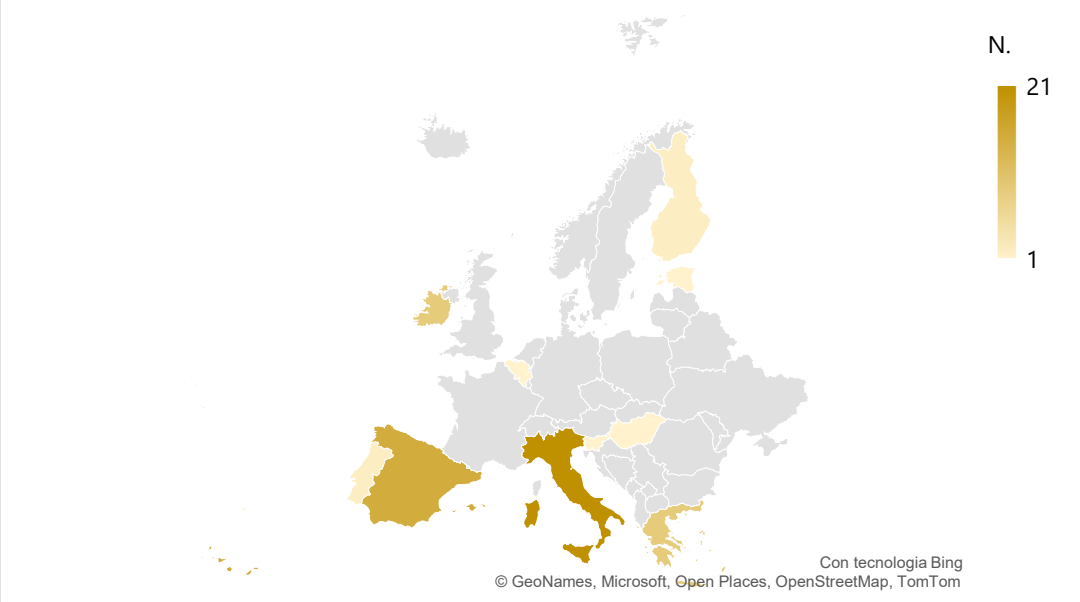


Figure 1. Geographical distribution of the CCSIs that have tested the platform

The data (Figure 2a) indicate a clear predominance of micro-enterprises (45 units), which represent most of the analysed sample. They are followed by a very limited number of small (8) and medium-sized enterprises (7), while only two entities are classified as large enterprises. This configuration is consistent with the typical structure of the European cultural and creative sector, which is predominantly composed of micro and small enterprises (Eurostat, 2025). Figure 2b shows that the sample of CCSIs that have tested the platform is dominated by private ownership (50 enterprises), which accounts for most organisations. Public organisations represent a much smaller share (9), while public-private ownership is only marginally present (3).

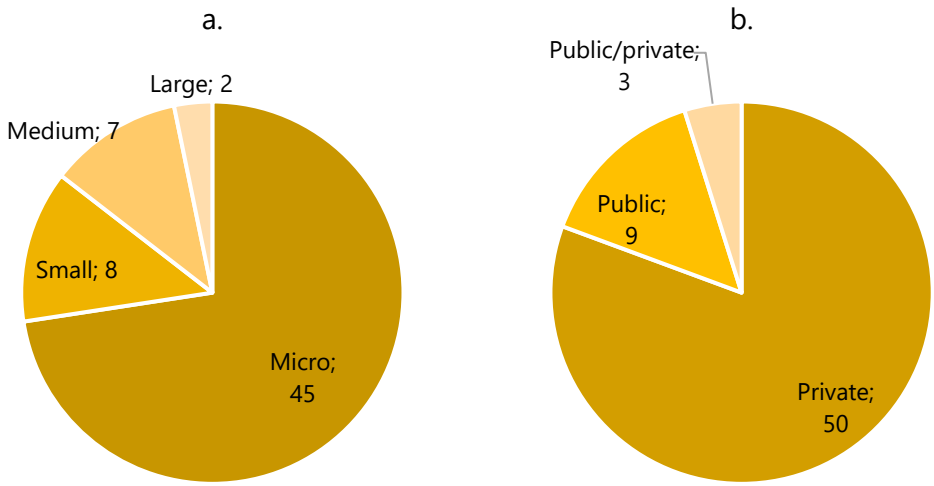


Figure 2. Size (a) and ownership (b) of the CCSIs that have tested the platform

While the analysis of the distribution by sector (Figure 3) reveals a stronger concentration of organizations operating in performing and creative arts (28 enterprises) and in archives, libraries, museums, and cultural heritage (15), followed by cultural education (6) and advertising (4). Other sectors, though less represented, include film and video (3), books and press (2), music (1), design and visual arts (1), software and games (1), and architecture (1).

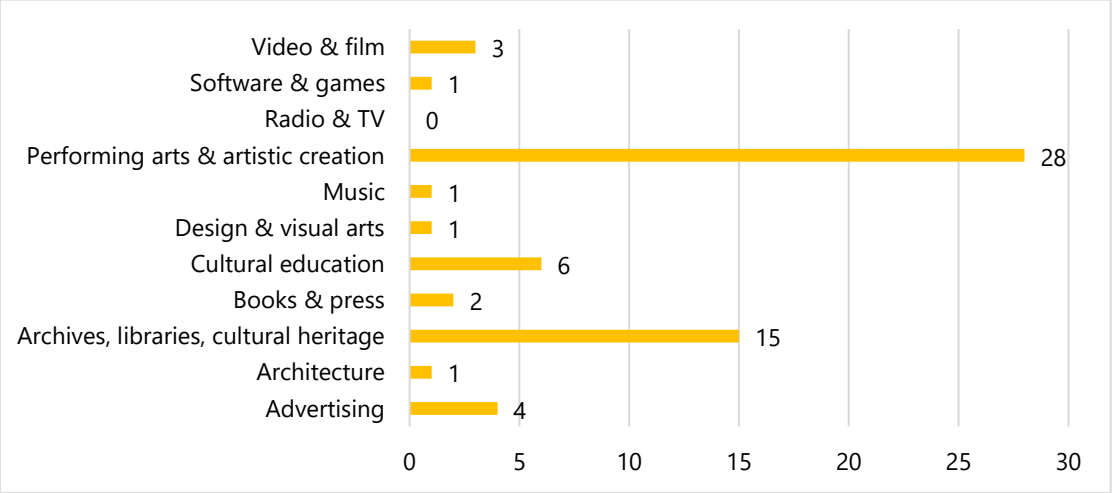


Figure 3. Sectoral distribution of the CCSIs that have tested the platform

4. RESULTS OF ANALYTIC RESEARCH

4.1 ESG score

Based on the data collected from the 62 CCSIs that completed the sustainable self-assessment tool, the average sustainability scores (Figure 4a), expressed on a 0–100 scale, are 43 for the environmental dimension, 62 for the social dimension, and 46 for the governance dimension. These results indicate a greater awareness and integration of sustainability practices in the social dimension compared with the environmental and governance dimensions. This suggests that CCSIs show a natural propensity at generating social and cultural value by promoting inclusion, civic participation and community cohesion.

However, lower scores in the environmental and governance dimensions indicate a more limited integration of sustainability management practices. Notable weaknesses in monitoring and reporting key indicators such as energy and water consumption, greenhouse gas emissions, and waste generation emerged as the most critical area in terms of environmental performance. These difficulties arise from the lack of dedicated professionals responsible for the systematic collection and monitoring of such data.

Moreover, almost none of the CCSIs reported having an environmental sustainability certification. Despite this, many enterprises show a strong sensitivity toward sustainable practices, such as the use of recycled and/or biodegradable materials, including in outsourced services, the adoption of smart technologies to reduce material consumption, and the promotion of sustainable mobility. Overall, it emerges that, although CCSIs recognize the importance of sustainability, many struggle to introduce tools for monitoring and reporting their environmental performance, as well as to develop truly sustainable governance models. This result is consistent with the nature of the sector, which is largely made up of micro and small enterprises that often have limited financial resources and managerial expertise.

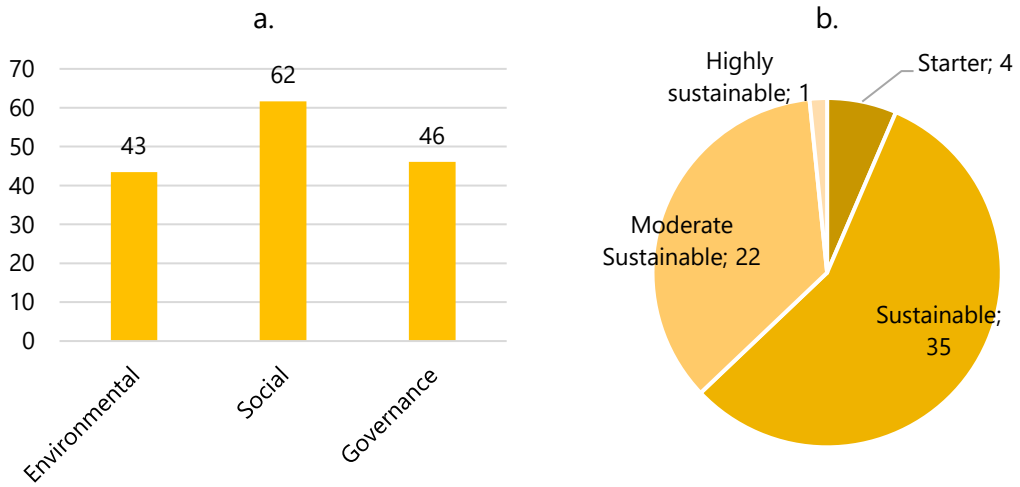


Figure 4. The sustainability scores (a) and levels (b) of the CCSIs that have tested the platform

As for the overall sustainability levels (Figure 4b), most of the analysed enterprises fall into the "Sustainable" (35 enterprises) and "Moderate Sustainable" (22) categories, while only a small share are classified as "Starter" (4), and only one has reached the "Highly Sustainable" level.

These results are in line with other European similar studies, even realized in different economic sectors. According to the European Environment Agency (2024), the average ESG score of the fifty largest European companies in the EURO STOXX 50 stands at 80.6/100 — a figure that reveals the greater disclosure capacity and resources of corporation compared to micro and small enterprises (Drempetic et al., 2020).

Another more relevant comparison is provided by modefinance's TranspArEEns study (2024), which assessed Italian SMEs using a self-reported ESG questionnaire and found average Governance scores of 65/100 — still 19 points above the 46/100 recorded by CreaSus CCSIs, a gap likely attributable to the lower degree of management formalisation typical of micro-enterprises in the cultural sector.

Regarding the classification thresholds applied to define the four sustainability levels (Starter, Moderate Sustainable, Sustainable, and Highly Sustainable), the boundaries were established based on a quartile-based segmentation of the 0–100 score range, informed by the model developed in Deliverable D2.1 and consistent with the approach adopted by comparable ESG self-assessment frameworks for SMEs (La Torre et al., 2024). This bias is most likely to affect responses related to environmental practices and governance formalisation — precisely the dimensions that recorded the lowest scores in this pilot — suggesting that the actual maturity gap in these areas may be even wider than the self-reported data indicate.

4.2. Perception of sustainability

The analysis of the responses provided by the 62 enterprises to the sustainability perception questionnaire (Table 1) highlights an overall high level of awareness and attention toward sustainability issues, indicating a widespread interest in integrating ESG principles into business management.

Specifically, the social dimension is perceived as the most relevant for organizations, followed by governance and environmental dimensions. Regarding the relationship between sustainability and economic performance, the data show a generally positive perception: many enterprises believe that integrating sustainability helps strengthen their market position and improve economic and financial performance.

Table 2. results of the questionnaire on perception of sustainability for CCSIs

Item number	Question	Average score (1-5)
PER01	How important is for your organization the environmental dimension of sustainability?	4.19
PER02	How important is for your organization the social dimension of sustainability?	4.61
PER03	How important is for your organization the governance dimension of sustainability?	4.15
PER04	How essential is sustainability in improving the positioning of CCSIs from an economic point of view for your organization?	4.22
PER05	How much does implementing sustainability strategies improve the economic and financial performance of CCSIs for your organization?	3.79
PER06	How much does regulatory imposition affect the implementation of sustainability strategies of CCSIs for your organization?	3.7
PER07	How much does corporate culture influence the implementation of sustainability strategies CCSIs for your organization?	4.08
PER08	How much do you think, for your organization, the implementation of sustainability strategies can impact the organization's costs of CCSIs?	4.17
PER09	To what extent are these costs an obstacle to the implementation of sustainability strategies in your organization?	3.94

These findings suggest that CCSIs are increasingly viewing sustainability not only as an ethical responsibility or a way to enhance their reputation, but also as a factor that can support competitiveness and long-term development. Another important aspect concerns the influence of regulations and corporate culture on the adoption of sustainable practices. While regulations are generally perceived as providing a useful framework, they are not considered the main driver of change. Instead, corporate culture appears to have a stronger influence in encouraging sustainable behaviour. This indicates that the shift towards sustainability among CCSIs is driven more by internal values and organizational identity than by external requirements.

At the same time, businesses recognize that implementing sustainable strategies often involves additional costs, which can hinder their adoption. Although the benefits of sustainability are widely acknowledged, many CCSIs—especially micro-enterprises—operate with limited financial resources and face difficulties in incorporating sustainability-related investments into their business models.

In conclusion the data reveal a gap between awareness and economic confidence: organisations rate sustainability as highly important (PER02: 4.61) yet are less convinced that it directly improves their financial performance (PER05: 3.79). This pattern reflects the 'intention-behaviour gap' documented in the SME sustainability literature (Claudy et al., 2013; Gleim et al., 2013), suggesting that CCSIs recognise sustainability as a value but have yet to fully experience or measure its economic returns.

4.3. Feedback on the self-assessment and transformation actions

This section summarises the data from organisations participating in the CreaSus pilot, capturing responses to key Likert-scale questions from the self-assessment tool feedback form and the transformation actions feedback form.

4.3.1. Feedback on the self-assessment tool

38 CCSIs completed the feedback form, providing a consistent picture across all questions and indicating generally positive acceptance of the tool. The 38 organisations that completed the feedback form represent 61% of the 62 CCSIs that had previously completed the self-assessment tool, and 45.2% of the 84 originally registered on the platform.

While a 61% response rate is acceptable by survey standards — broadly in line with average participation rates reported in other organisational survey research, where response rates of 50–60% are considered acceptable (Baruch & Holtom, 2008) — it nonetheless introduces a potential response bias: organisations that chose to complete the feedback form may systematically differ from those that did not, with more engaged or more satisfied participants being more likely to respond. This is a well-documented phenomenon in organisational survey research (Rogelberg & Stanton, 2007) and implies that the satisfaction scores reported below may slightly overestimate the overall acceptance of the tool across the full sample of 62 CCSIs.

Results should therefore be interpreted as indicative of the perceptions of the more engaged segment of the pilot participants rather than as fully representative of all tested organisations. This caveat is particularly relevant for the feedback on transformation actions (Section 3.2), where only 19 organisations responded — representing 22.6% of the original sample — a response rate that warrants additional caution in generalising the findings.

The questions in the feedback form related to the sustainable self-assessment tool are listed here, and Figure 5 (from Figure 5a to Figure 5h) shows the responses of the CCSIs. The questions are:

a. To what extent did you find the items of the questionnaire easy to understand?
b. How relevant did you find the proposed items for the assessment of sustainability in your organization?
c. How much value do you think the use of this tool adds to your organization?
d. Would you be willing to use this tool for the periodic self-assessment of sustainability in your organization?
e. Would you be willing to use this tool as a sustainability certification tool for your organization?
f. How easy was to complete the self-assessment tool in terms of usability of the platform?
g. How easy was to access the results?
h. What is your overall satisfaction with the self-assessment tool?

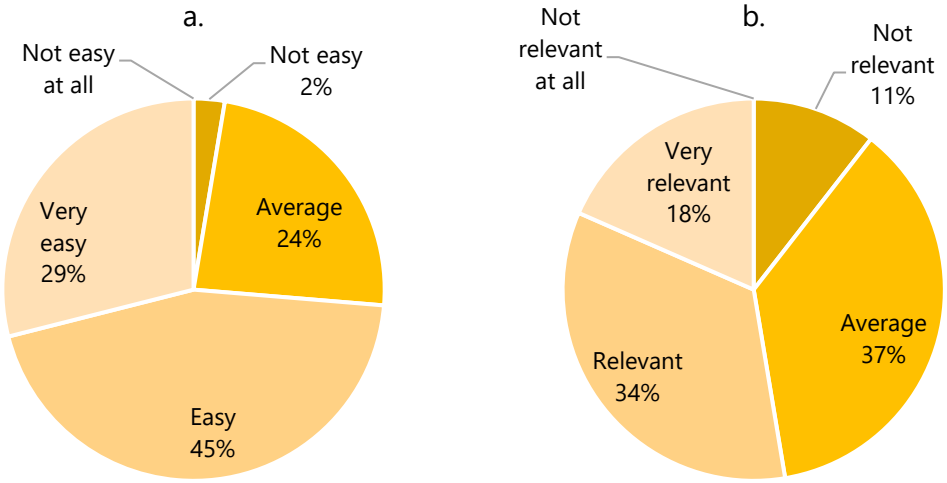


Figure 5a, b. Answers to feedback form questions (1)

Feedback from the 38 organisations that participated in the CreaSus pilot revealed a strong overall endorsement of the self-assessment tool, with positive responses clustering across all dimensions. Participants rated the questionnaire items as easy to understand (28 out of 38 were "Easy" or "Very easy") and moderately relevant to their sustainability needs (20/38 "Relevant" or "Very relevant"), while perceiving them as highly valuable (27/38 "Valuable" or "Very valuable").

Most respondents expressed a willingness to use the tool periodically (34/38 "Yes") and even to obtain certification (32/38 "Yes"). The tool also received very positive evaluations in terms of usability (35/38 "Easy" or "Very easy") and high satisfaction levels (32/38 "High" or "Very high").

The positive assessments across different types of cultural organisations suggests that the tool is an effective and accessible instrument for ESG self-assessment. However, minor refinements for small and micro-organisations, as well as sector-specific adaptations, could enhance its applicability.

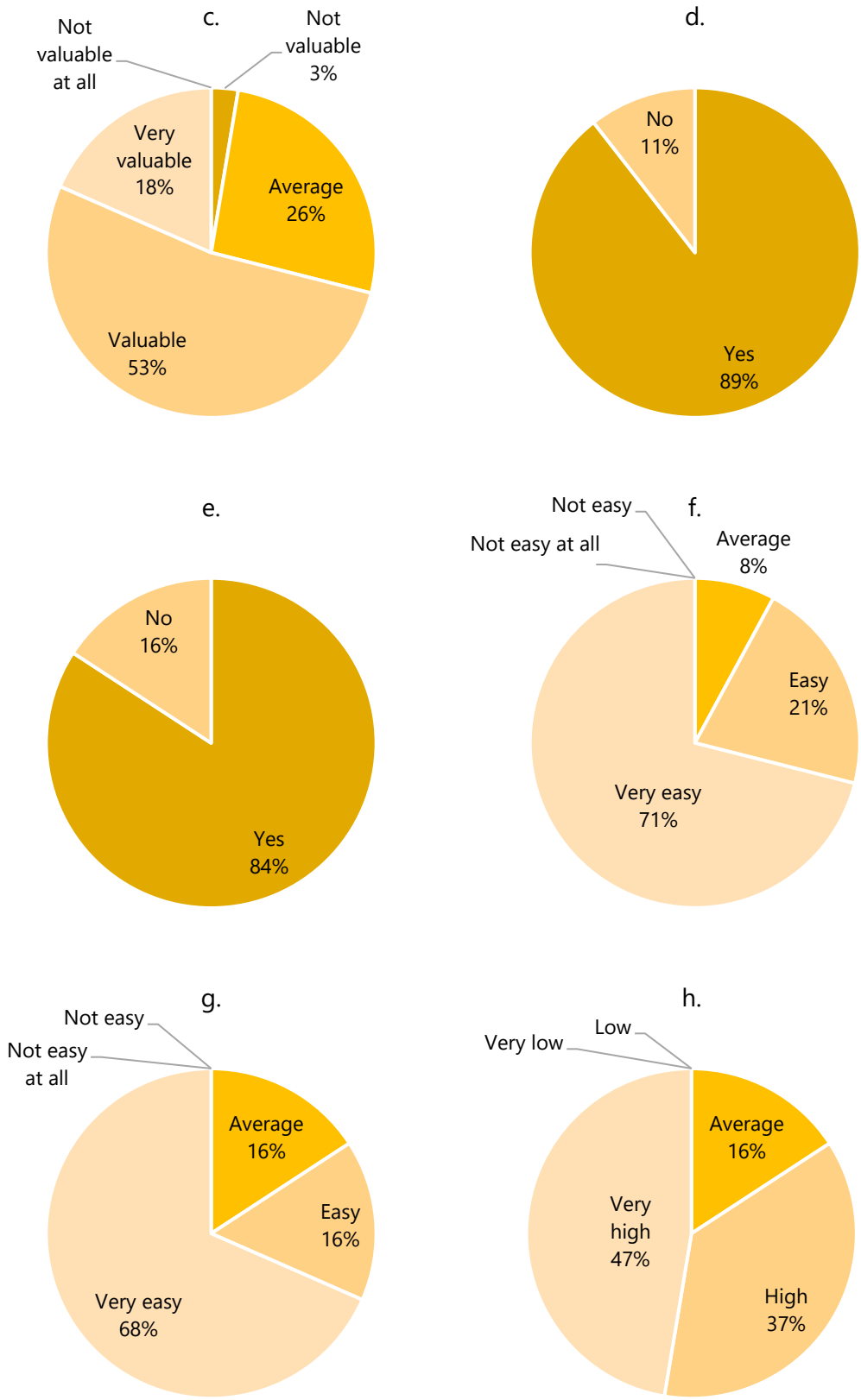


Figure 5c-h. Answers to feedback form questions (2)

Beyond the quantitative results, the qualitative feedback provided by participating organizations offers important insights into the perceived strengths and limitations of the self-assessment tool. While respondents generally appreciated the usability of the platform and the clarity of the interface, several organizations highlighted challenges related to the applicability of some indicators to the specific characteristics of the cultural and creative sectors.

An important theme concerned organizational size. Many micro-organizations and non-governmental organisations (NGOs) perceived the tool as being more suited to larger organizations with formalized management structures. Respondents noted that the absence of dedicated sustainability officers, formal reporting systems, or certification schemes should not necessarily be interpreted as a lack of sustainability commitment. Several participants therefore suggested introducing conditional logic and differentiated assessment pathways according to organizational size, allowing smaller organizations to answer only those questions that are relevant to their operational reality.

Participants also highlighted limitations associated with environmental indicators when organizations operate in public buildings, rented facilities, or shared infrastructures. In such situations, organizations often have limited control over energy systems, water management, or building efficiency measures. Respondents suggested introducing a "Not Applicable" option and distinguishing more clearly between factors directly controlled by the organization and those dependent on external infrastructure providers.

Finally, despite the positive evaluation of the platform's usability, several participants reported difficulties in interpreting certain technical ESG concepts and sustainability-related terminology. Requests for multilingual versions of the questionnaire, contextual explanations, dynamic glossaries, and country-specific guidance were common, suggesting the need to improve linguistic accessibility and reduce potential interpretation bias across different European contexts.

Overall, the qualitative feedback confirms the value of the self-assessment tool while identifying opportunities for further refinement, particularly regarding organizational size differentiation, cultural-sector specificity, infrastructure-related constraints, and linguistic accessibility.

4.3.2. Feedback on the transformation actions

Feedback from 19 organisations on the transformation actions and best practices reveals a generally favourable response, emphasising the clarity and potential of the tool while highlighting implementation challenges.

The questions in the feedback form related to the sustainable self-assessment tool are listed here, and Figure 6 (from Figure 6a to Figure 6j) shows the responses of the CCSIs. The main questions are:

a. To what extent did you find the proposed actions easy to understand?

b. How relevant do you find the proposed actions and best practices for the improvement of sustainability in your organization?
c. How much value do you think the implementation of the proposed actions can add to your organization?
d. To what extent did you find the proposed actions easy to apply to your organization?
e. Is it likely that your organization implements several of the proposed actions?
f. Which are the main barriers for the implementation of the proposed actions?
g. Which are the main facilitators for the implementation of the proposed actions?
h. How easy was to consult the proposed actions and best practices?
i. How usable did you find the downloadable report?
j. To what extent do the proposed actions and best practices contribute to the work that your organisation needs to carry out in terms of sustainability?

Respondents found actions easy to understand (16/19 "Easy" or "Very easy"), with moderate relevance (12/19 "Relevant" or "Very relevant") and solid perceived value (16/19 "Some value" or "High value"). Applicability was more mixed (only 5/19 "Easy" or "Very easy" and 9/19 "Average"), with 17/19 likely to implement several actions. Main barriers included limited financial options (15) and human resources (19), while facilitators were alignment to organizations' strategic goals (11), specialised staff to support the implementation (9), and funding schemes to support the implementation of the actions (10). Consultation ease and report usability scored highly (14/19 "Easy" or "Very easy" for both), with strong contribution to sustainability work the organisation needs to carry out (15/19 "High" or "Very high"). These responses affirm the tool's effectiveness as a practical guide for sustainability improvements in cultural organizations, though tailoring for small-scale entities, resource constraints, and sector-specific examples would boost its real-world impact and adoption rates.

The CreaSus pilot demonstrated that Sustainability Assessment Model can serve as a practical and accessible tool for CCSIs, especially for the micro and small cultural organisations predominant in the sector. The self-assessment conducted by 62 organisations showed a strong sustainability perception, particularly in the social dimension. However, the results also pointed to a moderate level of ESG maturity, with weaknesses in environmental monitoring and the formalisation of governance practices – areas that are often challenging for organisations operating with limited resources.

The feedback collected during the pilot was largely positive. Most participants considered the self-assessment questions easy to understand (74%) and useful for evaluating their sustainability performance (71%). In addition, a large majority expressed interest in using the tool on a regular basis (89%) and in obtaining certification based on its results (84%). The proposed transformation actions were also well received, with 84% of respondents finding them clear and easy to interpret, and 89% indicating a willingness to implement them. At the same time, limited human and financial resources emerged as the main obstacles to putting sustainability initiatives into practice.

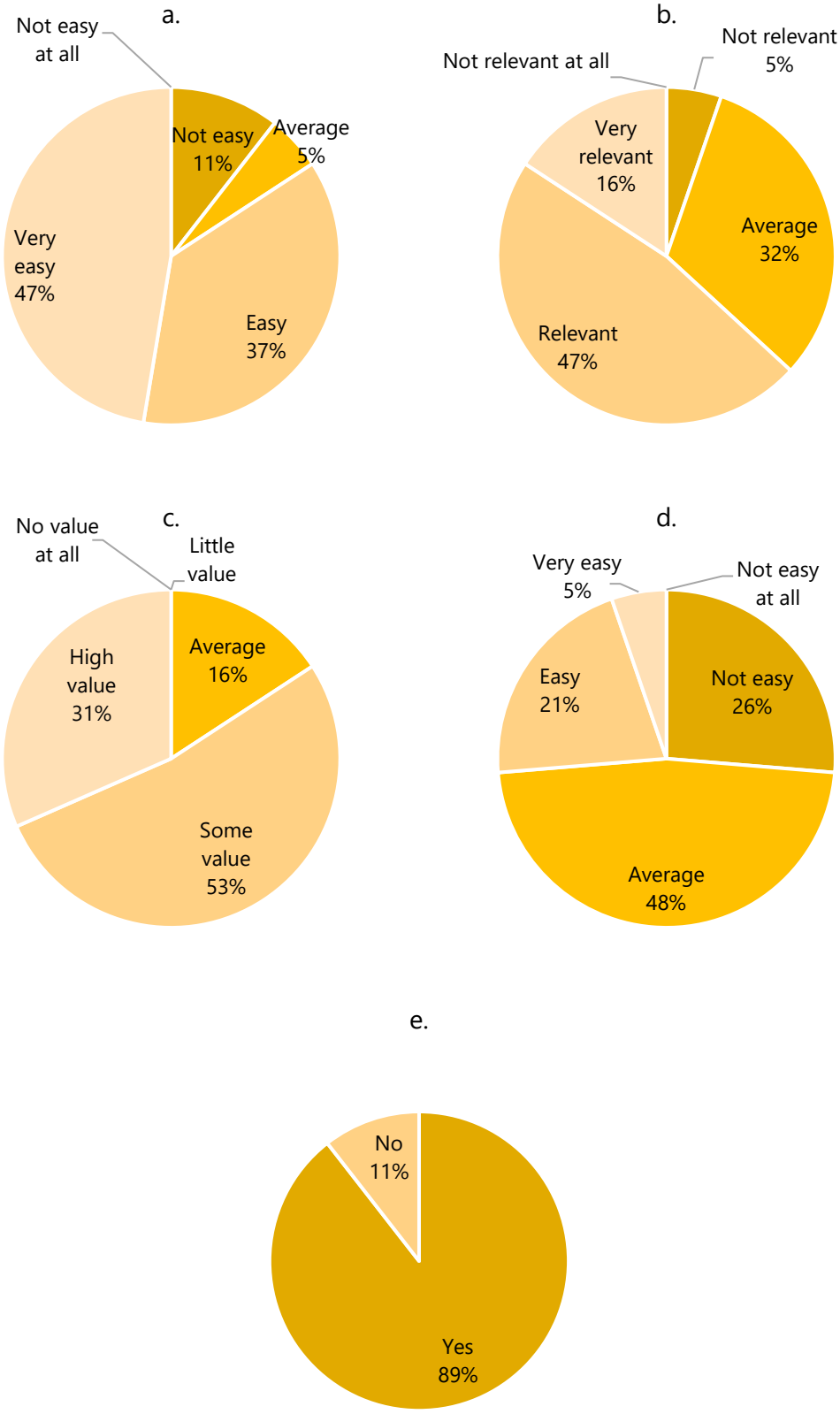
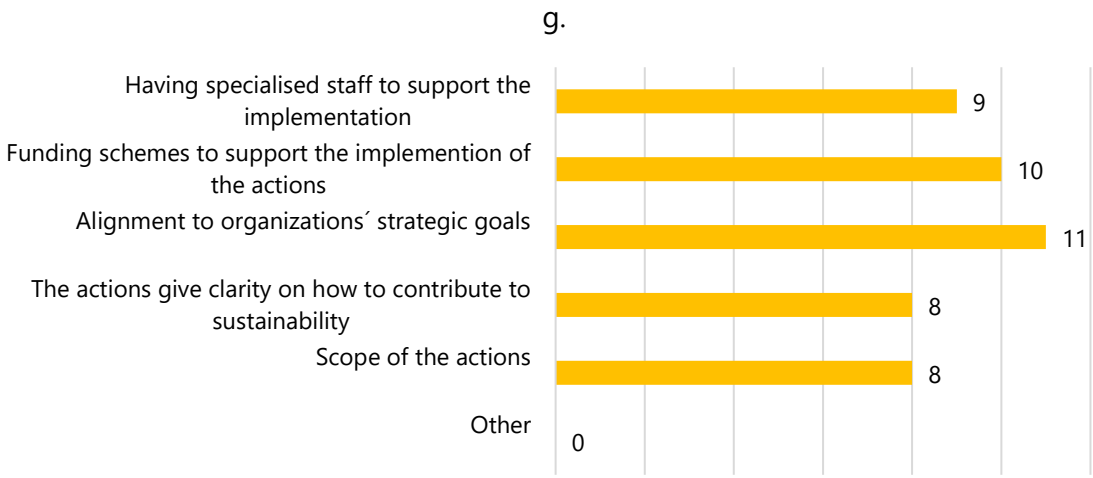


Figure 6a-e. Answers to feedback form questions (1)



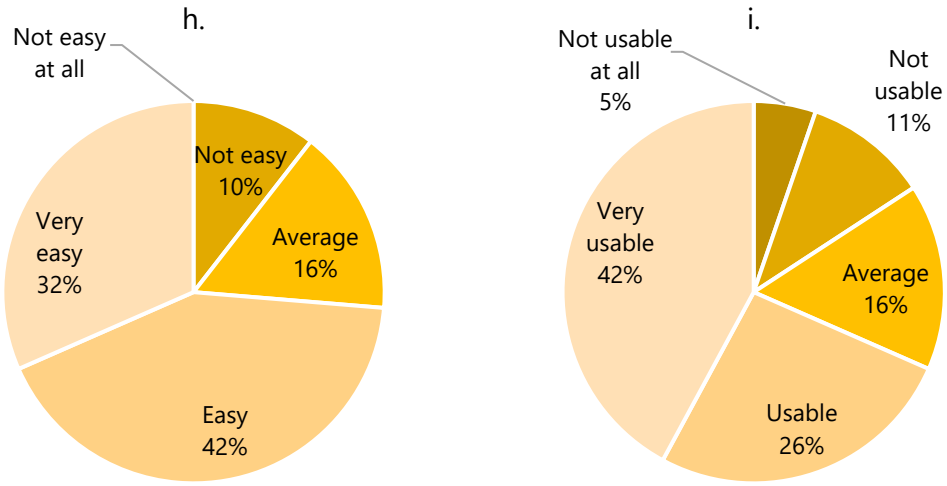


Figure 6f-i. Answers to feedback form questions (2)

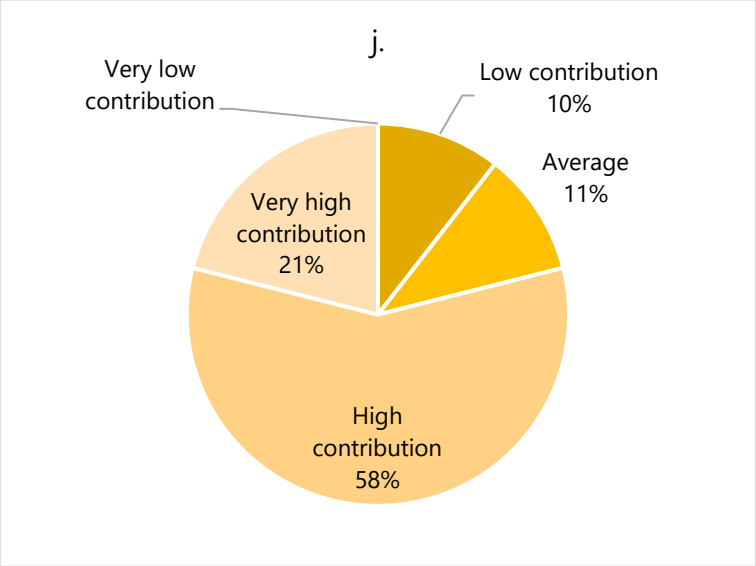


Figure 6j. Answers to feedback form questions (3)

The qualitative feedback on the transformation actions complements the quantitative findings by highlighting the main factors influencing implementation. While respondents generally considered the proposed actions clear and valuable, many organizations identified a significant gap between understanding the recommendations and having the capacity to implement them.

Limited financial and human resources emerged as the most significant barriers. Many cultural organizations reported insufficient budgets to invest in sustainability initiatives and a lack of dedicated person to coordinate implementation activities. This finding is particularly relevant for micro-organizations, which often rely on small teams, volunteers, or project-based staff.

Another frequently mentioned challenge concerns the limited decision-making power of organizations operating in public, rented, or shared facilities. Participants noted that many environmental actions depend on infrastructure-related decisions beyond their direct control, such as building renovations, energy supply contracts, or energy-efficiency investments. Consequently, some organizations felt unable to implement specific recommendations.

Respondents also emphasized the importance of strategic alignment as a key facilitator of implementation. Sustainability actions are more likely to be adopted when they contribute directly to organizational objectives and can be integrated into existing planning and management processes. Similarly, access to funding opportunities was repeatedly identified as a critical enabling factor that could accelerate the adoption of sustainability measures.

Several participants proposed improvements to increase the practical usefulness of the transformation actions. Among the most common suggestions was the introduction of a

prioritization framework capable of distinguishing between short-term, low-cost actions and longer-term strategic investments. Organizations also requested examples specifically tailored to micro-enterprises, as well as a repository of good practices and peer-learning experiences from other CCSIs. Furthermore, some respondents suggested improving the visibility and usability of the downloadable report by providing editable formats that could serve as internal sustainability roadmaps.

These findings suggest that future developments of the self-assessment tool should focus not only on identifying sustainability priorities but also on supporting organizations throughout the implementation process through tailored guidance, practical examples, peer-learning opportunities, and links to relevant funding schemes.

5 RESULTS OF PROBIT ANALYSIS

The CreaSus dataset comprises 62 organizations and Table 3 reports the frequency distribution of the variables in the CreaSus dataset. The dependent variable, DummyGrant, is coded as 1 if the organization obtained a sustainability grant and 0 otherwise; which means that 21 organizations (33.9%) obtained the grant, while 41 organizations (66.1%) did not. Regarding the explanatory variables, DummySector is coded as 1 for creative organizations and 0 for cultural organizations; in the sample, 13 organizations (21%) are creative and 49 (79%) are cultural. DummyMicro is coded as 1 for micro enterprises and 0 for small, medium, and large enterprises; 45 organizations (72.6%) are micro enterprises, whereas 17 (27.4%) belong to the other size categories. Finally, DummyNorth is coded as 1 for organizations located in Northern Europe and 0 for Southern Europe; 14 organizations (22.6%) are in Northern Europe and 48 (77.4%) are in Southern Europe.

Table 3. Frequencies

Variable	N=0	N=1	Average
DummyGrant (dependent variable)	**41 (66.1%)**	**21 (33.9%)**	**0.339**
DummySector	49 (79.0%)	13 (21.0%)	0.210
DummyMicro	17 (27.4%)	45 (72.6%)	0.726
DummyNorth	48 (77.4%)	14 (22.6%)	0.226

The continuous variables present the following descriptive statistics (Table 4).

Table 4. Descriptive statistics

Variable	N	Average	Standard deviation	Min	Max
ESGscore	62	50.53	14.14	13.06	87.88
Age	62	19.94	25.58	3	180

As shown in the histograms of Figure 7, organizations that obtained a grant show a clearly right-shifted distribution, concentrated in higher score intervals.

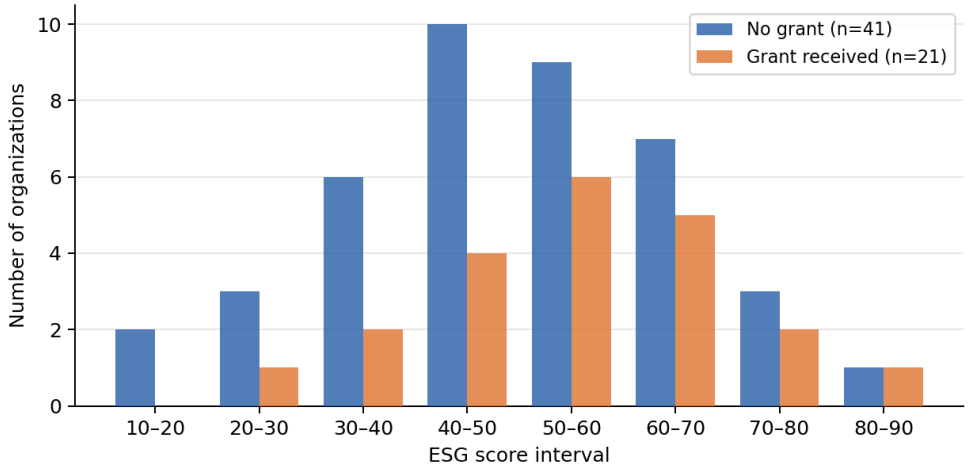


Figure 7. ESG score distribution by grant status.

Overall fit statistics for each model are as presented in Table 5 and 6.

Table 5. Probit

Indicator	Value	df	Value/df
Deviance	66.066	56	1.180
Pearson chi-square	54.814	56	0.979

Interpretation: *the Deviance/df ratio = 1.180 and the Pearson/df ratio = 0.979 are close to 1, indicating no overdispersion and a good fit of the model to the data.*

Table 6. Logit

Indicator	Value
Cox and Snell R^2	0.189
Nagelkerke R^2	0.261
Overall percentage of correct classification	64.5%
Specificity (correct classification of DummyGrant = 0)	82.9% (34/41)
Specificity (correct classification of DummyGrant = 1)	28.6% (6/21)

Interpretation*: the model explains about 26% of the variance in the dependent variable (Nagelkerke R^2), a value consistent with what is typically found in the literature for small samples—Nguyen et al. (2026) report adjusted R^2 values between 0.20 and 0.29 in fixed-effects models. The model is more effective at predicting "non-recipients" (82.9%) than "recipients" (28.6%), which is a common result in the presence of imbalanced classes (33.9% vs. 66.1%).*

Table 7 reports the estimated coefficients of the two models to allow a direct comparison. The consistency of the signs, statistical significance, and odds ratios provides evidence of the robustness of the results.

Table 7. Estimated coefficients of the Probit and Logit models

Variable	Probit Exp(B)	Logit Exp(B)	Concordance	Interpretation
(Constant)	0.064**	0.011*	✓	
ESGscore	**1.040****	**1.066***	✓	**Significant positive effect**
DummySector	-0.284*	-0.120†	✓	Negative effect
Age	1.000	1.000	✓	Not significant
DummyNorth	2.084	3.119	✓	A positive but not significant trend
DummyMicro	1.520	2.068	✓	Not significant

*Legend: ** p<0,01; * p<0,05; † p<0,10. Concordance ✓ = same sign and same direction of effect in both models; Exp(B) is the exponential of the coefficient B, that is, e^B.*

The empirical evidence strongly confirms H1: **ESGscore positively and significantly predicts the probability of obtaining a sustainability grant.** In the Probit model, the effect is highly significant (p = 0.006), while in the Logit model it is significant at the 5% level (p = 0.035). The odds ratios (1.040 in the Probit model and 1.066 in the Logit model) imply that each additional point in ESGscore increases the odds of obtaining the grant. Given the observed ESGscore range from 13.06 to 87.88, this translates into substantial differences between organizations at the 25th and 75th percentiles.

This result is fully consistent with Nguyen et al. (2026), who document a positive and significant effect of ESG score on the receipt of public funds under the CARES Act. Their findings suggest that **funding agencies may use ESG-related signals from cultural and creative organizations as indicators of social legitimacy and reliability** (Suchman, 1995; Werner, 2015), thereby reducing the information asymmetries typical of fast decision-making processes.

Organizations belonging to the creative sector, which accounts for 21% of the sample, have **a significantly lower probability of obtaining the grant than organizations in the other sectors** (Probit: B = -1.259, p = 0.017, Exp(B) = 0.284). The odds are reduced by approximately 71.6%. This is consistent with the heterogeneity analyses by Du et al. (2022) on industry category and by Nguyen et al. (2026) on sectoral exposure during COVID-19.

Three independent variables are not statistically significant at the 5% level:

- **Age**: the coefficient is essentially zero (B ≈ 0.000, p = 0.949). Du et al. (2022) show that life-cycle heterogeneity matters, but only when firms are separated into growth, maturity, and decline stages. In our sample, the continuous Age variable does not capture this distinction; future research could test life-cycle dummy variables.
- **DummyNorth:** the coefficient is positive and non-negligible in size (Exp(B) = 2.08 in the Probit model, 3.12 in the Logit model), but it does not reach significance at the 5% level (p = 0.118 and p = 0.156). Du et al. (2022) find positive and significant effects for eastern regions of China, which are more developed; a similar pattern for Northern Italy may emerge in a larger sample.
- **DummyMicro:** the positive effect (Exp(B) = 1.52) is not significant (p = 0.338). Nguyen et al. (2026) show that ESG is especially important for otherwise disadvantaged firms; the fact that 73% of our sample consists of micro-organizations likely limits the statistical power to detect a specific size effect.

Figure 8 presents the Probit vs. Logit robustness check.

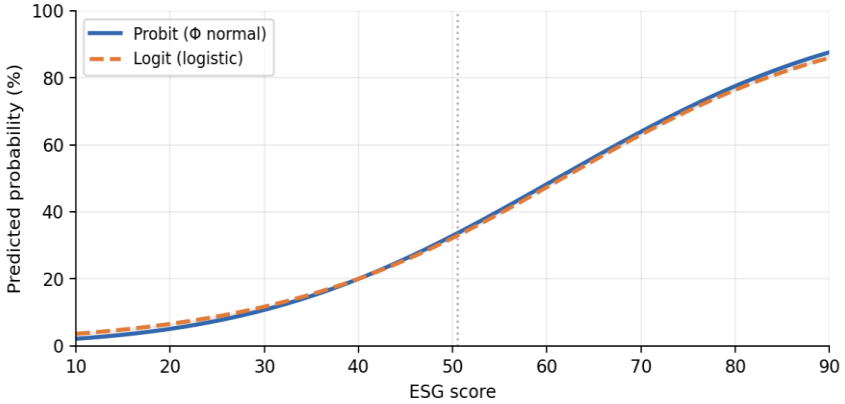


Figure 8. Probit vs. Logit robustness check.
The two curves are nearly identical in the central data range (ESG 30–70), confirming that results do not depend on the distributional assumption chosen.

The comparison between the Probit and Logit coefficients provides a robustness check for the results and deserves separate attention.

It is observed perfect agreement in the signs of all five coefficients with the same order of significance between ESGscore > DummySector > DummyNorth > DummyMicro > Age in both models. Furthermore, the ratio between Logit and Probit coefficients is consistent with the theoretical factor $\pi/\sqrt{3} \approx 1.81$ (for example, ESGscore Logit/Probit = 0.064/0.040 = 1.60; DummySector = 2.123/1.259 = 1.69).

Convergence in the omnibus tests ($p=0.021$ vs. $p=0.024$) and this convergence supports the robustness of the substantive result, in line with Nguyen et al. (2026), who adopt a multi-method approach (LWLS, Probit, PSM, and entropy balancing) and obtain consistent results across different specifications.

5.1. Marginal effects and practical significance

Beyond statistical significance, it is useful to quantify the practical magnitude of the ESG effect through average marginal effects (AMEs). In a Probit model, the AME of a continuous variable is computed as the average of the partial derivative of the predicted probability with respect to that variable across all observations.

For ESG score, the AME is approximately 0.0095, meaning that each additional point in the ESG score increases the predicted probability of obtaining a grant by approximately **0.95 percentage points**, ceteris paribus. Given the observed interquartile range of the ESG score (approximately 40 to 62 points), moving from the 25th to the 75th percentile is associated with an increase in the predicted probability of roughly **21 percentage points**. This is a substantively large effect for an organizational-level predictor in a small sample.

For DummySector, the AME is approximately −0.28, implying that organizations belonging to the creative sector have a predicted probability of receiving a grant that is approximately 28 percentage points lower than comparable cultural organizations, holding all other variables constant. This gap is not only statistically significant but also economically and policy-relevant, as it suggests a systematic disadvantage for creative enterprises in accessing sustainability funding.

Figure 9 shows the predicted Probit probability of obtaining a grant as a function of the ESG score, broken down by sector and geographic location.

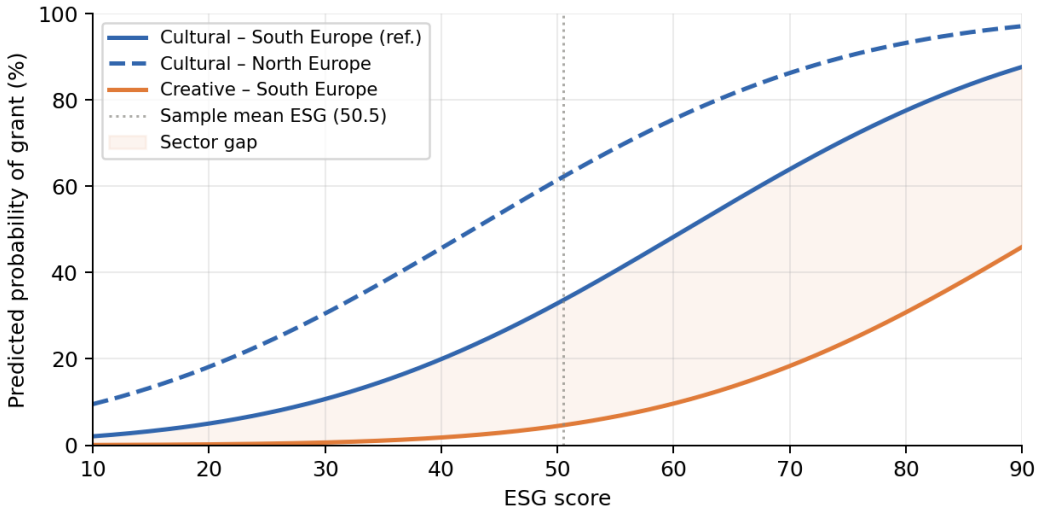


Figure 9. Probit predicted probability of obtaining a grant as a function of ESG score, by sector and geographic location.
The shaded area represents the penalty gap for creative sector organizations.

5.2 Limitations and directions for future research

Despite the consistency of the results across both model specifications, several limitations should be acknowledged. First, the sample size of 62 organizations, while sufficient for the estimation of a five-variable Probit model with robust standard errors, constrains statistical power. In particular, the non-significance of DummyNorth (Exp(B)=2.08, p=0.118) and DummyMicro (Exp(B)=1.52, p=0.338) may reflect insufficient power rather than the true absence of effects: both coefficients carry effect sizes that would be substantively meaningful in a larger dataset. A power analysis suggests that detecting an odds ratio of 2.0 at the 5% significance level with 80% power would require approximately 110–130 observations.

Second, the binary coding of the geographic dimension (DummyNorth: Northern vs Southern Europe) is a considerable simplification. Future research could test more granular country-level fixed effects or alternatively use continuous proxies such as the European Innovation Scoreboard index or per-capita GDP, which would better capture the institutional heterogeneity within the European context. Third, the Age variable, coded as a continuous linear term, failed to reach significance (B≈0.000, p=0.949). This null result is consistent with Du et al. (2022), who find that the effect of firm age on ESG outcomes is non-linear and life-cycle dependent. Future specifications could replace the continuous Age variable with life-cycle dummy variables (e.g., start-up: ≤5 years; growth: 6–15 years; mature: >15 years) to test whether specific life-cycle stages are systematically associated with better or worse grant access.

Fourth, a relevant methodological concern in this type of study is the potential endogeneity between ESG performance and grant receipt: organizations that receive grants may use the resources to further improve their ESG profile (Forliano et al., 2022), creating a reverse causality that cross-sectional Probit estimation cannot resolve. Addressing this concern would require either an instrumental variable (IV) approach or a longitudinal panel design that tracks ESG scores and grant applications over time. Finally, from a measurement perspective, the ESG score used in this study is derived from a self-assessment questionnaire, which may be subject to social desirability bias. Triangulating the self-reported ESG score with independently verified non-financial disclosure data would strengthen the construct validity of future analyses.

6. Conclusions

The research question receives an affirmative answer: **the likelihood of obtaining a sustainability grant is significantly influenced by organizational characteristics, in particular by ESG score and sector of belonging**. The binomial Probit model with robust standard errors, estimated on the full sample of 62 organizations and including five predictors, is globally significant (χ^2=13.316, p=0.021) and identifies two statistically relevant predictors: ESGscore (p=0.006), with a positive effect, and DummySector (p=0.017), with a negative effect.

These findings are consistent with the recent stream of research initiated by Nguyen et al. (2026), which highlights ESG as a signal of reliability for public funding agencies. At the same time, they extend the traditional perspective in the literature, where ESG is usually treated as an outcome of grants, by showing that the relationship between ESG and public funding is bidirectional: ESG commitment facilitates access to grants, while grants may in turn strengthen ESG performance, for instance through investments in R&D, as shown by Du et al. (2022) and Forliano et al. (2022).

The **practical implications** are threefold. First, organizations seeking access to sustainability grants should invest in building a strong ESG profile, since it appears to function as a meaningful signal in selection processes. Second, funding agencies, whether explicitly or implicitly, reward ESG performance, which supports greater investment in transparency and non-financial reporting. Third, sector-specific effects are significant and should be taken into account when designing calls for proposals in order to avoid unintended biases.

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