

Transforming management in the era of post-globalization and agentic economy

UNIVERSITY OF PAVIA – 28-29 MAY 2026



Sinergie SIMA
Management Conference

PROCEEDINGS



Partners



UNIVERSITÀ
DI PAVIA

Dipartimento di
Scienze Economiche
e Aziendali

Dipartimento
di Eccellenza
MUR 2023-2027



Patronage



Comune di Pavia

Sinergie-SIMA Management Conference Proceedings
Transforming management in the era of post-globalization and agentic economy
May 28th and 29th, 2026 - University of Pavia (Italy)

The Conference Proceedings are published online on <https://www.sijmsima.it>

ISBN 979-12-243-4261-8

© 2026 Società Italiana di Management (SIMA)

Conference chairs

STEFANO DENICOLAI	UNIVERSITY OF PAVIA
ANTONELLA ZUCHELLA	UNIVERSITY OF PAVIA
BEATRICE LUCERI	PRESIDENT OF SIMA - UNIVERSITY OF PARMA
MARTA UGOLINI	EDITOR-IN-CHIEF OF SINERGIE ITALIAN JOURNAL OF MANAGEMENT - UNIVERSITY OF VERONA

Scientific Committee

MARTINELLI ELISA (COORDINATOR OF THE SCIENTIFIC COMMITTEE)	
BONFANTI ANGELO (COORDINATOR OF THE CONFERENCE)	
ABRATE GRAZIANO, UNIVERSITY OF PIEMONTE ORIENTALE	MARCHI GIANLUCA, UNIVERSITY OF MODENA E REGGIO EMILIA
BAGLIERI DANIELA, UNIVERSITY OF MESSINA	MARTINI UMBERTO, UNIVERSITY OF TRENTO
CABIDDU FRANCESCA, UNIVERSITY OF CAGLIARI	MAZZONI CLELIA, VANVITELLI UNIVERSITY OF NAPLES
CANNAVALE CHIARA, PARTHENOPE UNIVERSITY OF NAPLES	PASTORE ALBERTO, SAPIENZA UNIVERSITY OF ROME
CASTALDO SANDRO, BOCCONI UNIVERSITY OF MILAN	PENCARELLI TONINO, CARLO BO UNIVERSITY OF URBIN
CESAREO LUDOVICA, LEHIGH, PENNSYLVANIA, USA	PROFUMO GIORGIA, UNIVERSITY OF GENOVA
CHIARVESIO MARIA, UNIVERSITY OF UDINE	RESCINITI RICCARDO, SANNIO UNIVERSITY OF BENEVENTO
CIAMPI FRANCESCO, UNIVERSITY OF FIRENZE	SEBASTIANI ROBERTA, CATTOLICA DEL SACRO CUORE
CORSARO DANIELA, IULM UNIVERSITY OF MILAN	SCHILLACI CARMELA ELITA, UNIVERSITY OF CATANIA
FREY MARCO, SCUOLA SUPERIORE SANT'ANNA	VARGAS-SÁNCHEZ ALFONSO, HUELVA, SPAIN
FUENTES BLASCO MARIA, SEVILLA, SPAIN	VONA ROBERTO, FEDERICO II UNIVERSITY OF NAPLES
HOFACKER CHARLES, FLORIDA, USA	ZATTONI ALESSANDRO, LUISS GUIDO CARLI UNIVERSITY
LA ROCCA MAURIZIO, UNIVERSITY OF CALABRIA	ZUCHELLA ANTONELLA, UNIVERSITY OF PAVIA
LAZZAROTTI VALENTINA, LIUC UNIVERSITY OF CASTELLANZA	

Scientific Track Coordinators and Co-Coordinators

SIMONE AIOLFI, UNIVERSITY OF PARMA	GIOVANNA MAGNANI, UNIVERSITY OF PAVIA
GUIDO BORTOLUZZI, UNIVERSITY OF TRIESTE	CHIARA MAURI, LIUC UNIVERSITY
FRANCESCA CHECCHINATO, UNIVERSITY OF VENICE	ANNA MENOZZI, UNIVERSITY OF PIEMONTE ORIENTALE
ELISA CONZ, UNIVERSITY OF PAVIA	MATILDE MILANESI, UNIVERSITY OF FLORENCE
ALESSANDRA COZZOLINO, SAPIENZA UNIVERSITY OF ROME	MARIACARMELA PASSARELLI, UNIVERSITY OF CALABRIA
GIOVANNI BATTISTA DAGNINO, LUMSA UNIVERSITY	ANDREA PICCALUGA, SCUOLA SUPERIORE SANT'ANNA OF PISA
ALFREDO D'ANGELO, CATTOLICA DEL SACRO CUORE UNIVERSITY	MASSIMO PICONE, UNIVERSITY OF PALERMO
MARIA DELLA LUCIA, UNIVERSITY OF TRENTO	ANGELO PRESENZA, UNIVERSITY OF MOLISE
NADIA DI PAOLA, FEDERICO II UNIVERSITY OF NAPLES	ANDREA RUNFOLA, UNIVERSITY OF PERUGIA
ROSANGELA FEOLA, UNIVERSITY OF SALERNO	ANGELOANTONIO RUSSO, LUM UNIVERSITY
FEDERICA GASBARRO, UNIVERSITY OF BRESCIA	IVAN RUSSO, UNIVERSITY OF VERONA
BIRGIT HAGEN, UNIVERSITY OF PAVIA	MARIA VERNUCCIO, SAPIENZA UNIVERSITY OF ROME
MARCO IEVA, UNIVERSITY OF PARMA	MASSIMILIANO VESCI, UNIVERSITY OF SALERNO
EMANUELE INVERNIZZI, IULM UNIVERSITY	AGOSTINO VOLLERO, UNIVERSITY OF SALERNO
CRISTINA LONGO, UNIVERSITY OF CATANIA	

Organizing committee

GIOVANNA MAGNANI (COORDINATOR), UNIVERSITY OF PAVIA	
COSTANZA BALDRIGHI, UNIVERSITY OF PAVIA	GIUSEPPE PIRRONE, UNIVERSITY OF PAVIA
MARCIN BARTOSIAK, UNIVERSITY OF PAVIA	FEDERICA SACCO, UNIVERSITY OF PAVIA
MAURO CAPESTRO, UNIVERSITY OF PAVIA	VALERIO VEGLIO, UNIVERSITY OF PAVIA
ELISA CONZ, UNIVERSITY OF PAVIA	FRANCESCO MUTIGNANI, UNIVERSITY OF PAVIA
BIRGIT HAGEN, UNIVERSITY OF PAVIA	BEATRICE RE, UNIVERSITY OF PAVIA
DIALA KABBARA, UNIVERSITY OF PAVIA	ANAHITA HEDAYAT ZADEH, UNIVERSITY OF PAVIA
MARGHERITA MILOTTA, UNIVERSITY OF PAVIA	

Staff

ADELE FERRAGAMO, SIMA	segreteria@societamanagement.it
MARCO GORI, CONFNOW!	marco.gori@confnow.eu

Emerging Green Professions in Cultural and Creative Organizations

MARTHA FRIEL¹, ANGELO MIGLIETTA¹, GIORGIA NATOLI¹

Abstract. *Cultural organizations are increasingly expected to reduce their environmental impact and embed sustainability into their operational practices. Yet the internal organizational conditions that support this transition remain poorly understood. This paper examines the organizational and contextual factors associated with the adoption of green human resource management (GHRM) practices – specifically, green staffing and green training provision – in the Italian cultural and creative sector.*

The study draws on data from the 4C–Cultural and Creative Carbon Cut questionnaire (Fondazione Santagata ETS, 2024), administered to a net sample of 634 Italian cultural and creative organizations. Associations between two independent variables – organizational size and network membership – and the two GHRM outcome variables were examined through chi-square tests and adjusted standardized residual analysis, following an exploratory data analysis approach.

Green staffing and training remain limited across the sector. Organizational size is positively associated with both practices, with micro-organizations significantly underrepresented despite their numerical dominance. Network membership is significantly associated with training provision, with networked organizations more than twice as likely to report offering it.

The non-probability sampling design limits generalizability. The cross-sectional structure precludes causal inference. Findings are exploratory and limited to two variables and the Italian context.

Professional networks represent an already-embedded, cost-effective mechanism for disseminating sustainability training. For micro-organizations, hybrid capacity-building strategies combining internal learning with sector-level support structures are the most realistic pathway toward developing green competencies.

This paper provides, to the best of the authors' knowledge, the first large-scale quantitative analysis of GHRM practices in the Italian cultural and creative sector, contributing an empirically grounded foundation for a dedicated research agenda at the intersection of cultural management, green skills, and organizational sustainability.

Keywords: *cultural and creative sector; GHRM; green staffing; green training; networks*

Framing of the research. *In recent years, literature on the cultural and creative sectors has highlighted the central role of human capital as a key factor in cultural organizations' ability to innovate, adapt to changing contexts, and generate economic and social value. Unlike many other productive sectors, cultural organizations have historically been characterized by a high intensity of skilled labor, creative skills, and symbolic capital, elements that make human resources a strategic component of their operations. In this context, cultural professionals tend to be hybrid and multidimensional, combining artistic, managerial, and entrepreneurial skills, and often operating in small organizations characterized by limited resources and a strong reliance on collaborative networks (Menger, 2006; Comunian & England, 2020; Borriero et al., 2024).*

From a broader perspective, the role of skills and human capital is increasingly important in contemporary knowledge-based economies. In such contexts, knowledge, skills, and competences (KSC) represent strategic resources for organizations, contributing to their capacity for innovation, adaptation, and competitiveness (Nuccio & Mogno, 2023). The development and updating of professional skills, therefore, become fundamental elements to enable organizations to respond to the major economic and social transformations underway, including digitalization and the transition to more sustainable development models.

This is particularly true, for example, in the context of the growing focus on environmental sustainability and the ecological transition that is also characterizing the world of cultural organizations and the creative industries, as well as, of course, many other sectors of the economy (ICOMOS, 2019). Indeed, a broad international debate has developed around the concepts of green jobs and green skills, which identify the set of knowledge, skills, and abilities necessary to support the transition to more sustainable production and consumption models (OECD, 2019; OECD, 2025).

In the case of cultural organizations, the relationship between culture and sustainability has progressively gained greater relevance both in academic debate and in cultural policies and organizational strategies (JULIE'S BICYCLE, 2021). In particular, museums and cultural organizations are increasingly called upon not only to promote environmental awareness through their cultural and educational activities, but also to reduce their environmental impact and adopt more sustainable management practices (Duxbury et al., 2017; Ernst et al., 2016).

However, the effectiveness of this process depends largely on the organizations' ability to integrate sustainability into their internal governance models, decision-making processes, and daily organizational practices (Domingues et al., 2023), also within the broader managerialization processes that are characterizing them (Palumbo et al., 2022). Without such integration, there is a risk that the commitment to sustainability will remain predominantly symbolic and will not translate into concrete changes in the operational activities of cultural organizations.

¹ Università IULM

In this context, one of the still relatively underexplored aspects concerns the role of human resource management practices in developing internal sustainability-oriented competencies. The literature on green human resource management (GHRM) highlights how practices such as green staffing – the introduction of roles or responsibilities dedicated to sustainability – and green training, understood as staff training on environmental issues and sustainable practices, can play a key role in supporting ecological transition processes within organizations (Renwick et al., 2013; Dumont et al., 2017). However, these practices have been studied primarily in industrial sectors or technology-intensive services, while they remain poorly explored in the cultural and creative sectors. This represents a significant gap in the literature, considering that cultural organizations present specific organizational characteristics – including often small size, heavy reliance on public or philanthropic resources, and hybrid professional structures – that can significantly influence the ways in which sustainability-oriented competencies are developed and integrated into organizational practices.

In light of these considerations, this study sits at the intersection of the literature on human capital in cultural sectors, that on green skills, and that on green human resource management practices. Specifically, the study aims to explore, with a focus on the Italian cultural sector, the extent to which cultural organizations are developing internal sustainability-oriented skills and which organizational and contextual characteristics are associated with the diffusion of these practices.

Purpose of the paper. *This paper presents preliminary findings from an ongoing study examining the organizational and contextual factors associated with the adoption of green human resources practice, in particular the presence of sustainability-oriented staff (green staffing) and the provision of sustainability training (green training). The study is guided by two research questions, approached as an exploratory agenda given the preliminary nature of the present paper:*

RQ1: What organizational characteristics are associated with the adoption of green human resource practices in Italian cultural and creative organizations?

RQ2: What contextual characteristics are associated with the adoption of green human resource practices in Italian cultural and creative organizations?

The study aims to map the current state of green human resources practices in the Italian cultural sector and to identify the organizational and contextual conditions under which such practices are more likely to be present. The specific objectives of the present paper are: (1) to describe the distribution of sustainability staffing and training provision across the sample; (2) to explore associations between two organizational and contextual characteristics – organizational size and network membership – and the two outcome variables; and (3) to identify which characteristics show the strongest exploratory signal, as a basis for future explanatory research across the full set of variables.

Methodology. *This study draws on data from the 4C–Cultural and Creative Carbon Cut questionnaire, conducted by Fondazione Santagata ETS (2024). The questionnaire is distributed online through a multichannel strategy. The questionnaire is structured into eight sections. The first one covers internal organizational characteristics, including size, legal form, and network membership, and contextual factors, including geographical area, municipal marginality code (defined according to the National Strategy for Inner Areas, 2020), share of university graduates in the region, and cultural sector. The remaining sections measure seven environmental dimensions on which cultural organizations can have an impact. One of these dimensions, Internal Processes, focuses on the organizational elements needed to manage activities sustainably. The present study examines variables from this dimension. Two variables capture the adoption of green human resources practices: 1) the presence of sustainability-oriented staff, and 2) the provision of sustainability training. We ask organizations reporting the absence of either practice to rate its perceived importance on a five-point Likert scale. Instead, organizations reporting the provision of sustainability training answer two follow-up questions: one on the topics covered, and one on the frequency of delivery. Both follow-up questions are closed, with pre-coded response categories.*

The cultural and creative sectors are delineated using the synoptic table developed by the Italian National Institute of Statistics (ISTAT) that maps economic activities according to the ATECO 2007 classification (updated 2022) across three perimeters: ISTAT 2022, ESSNet Culture, and Symbola. Sectoral composition follows the ESSNet Culture framework, operationalized through NACE Rev. 2 codes, adopted for data falling within the 2008–2024 reference period.

Organizational size is measured by adapting the Eurostat size classifications to the Italian landscape (Symbola & Unioncamere, 2024). Eurostat (2023) classifies enterprises with fewer than ten employees as micro, those with ten to forty-nine employees as small, those with fifty to two hundred forty-nine employees as medium-sized, and those with two hundred fifty or more employees as large. Since the Italian cultural sector is predominantly composed of micro and small enterprises (Symbola & Unioncamere, 2024), the original micro and small categories were further subdivided as follows: micro (fewer than five employees), micro-small (six to ten employees), small (eleven to twenty-five employees), and small-medium (twenty-six to fifty employees).

The analysis proceeded in two stages. During the first stage, we follow Tukey's (2018) exploratory data analysis (EDA) approach to identify patterns and distributional features before formal testing. During the second stage, we examine associations between the organizational and contextual characteristics and the two outcome variables. The three-category staffing variable was recoded into a binary measure (Field, 2018). The response categories “exclusively dedicated” and “not exclusively dedicated” were collapsed into a single “yes” category, yielding a 5×2 contingency

table. To identify which cells drove each significant association, adjusted standardized residuals were inspected (Field, 2018). Only statistically significant associations are reported in the Results. We conduct all analyses in IBM SPSS Statistics (version 29).

Results. The gross sample comprised 804 organizations. Following two exclusion criteria—duplicates (C1) and organizations falling outside the ESSNet Culture perimeter (C2)—the net sample was reduced to 634 organizations. Primary acquisition channels included the Fondazione Santagata newsletter and a provider-sourced email list (44.3%, $N = 281$) and FAMU (39.0%, $N = 247$). Supplementary outreach was conducted via sector-specific intermediaries, including TrovaFestival (3.8%) and Ateatro (3.6%).

Respondents predominantly occupied senior decision-making roles: legal representatives (19.4%), directors (15.9%), and project managers (9.8%); nearly half (46.4%) reported a tenure exceeding ten years. Self-identified green managers constituted only 3.0% of the sample ($N=19$). The sample achieves national coverage across all 20 Italian regions, with a greater concentration in the North (52.8%), followed by the Centre (27.6%) and the South and Islands (19.6%). Specifically, the highest regional concentrations are in Piedmont (17.2%, $N=109$), Lombardy (13.7%, $N=87$), Tuscany (13.1%, $N=83$), and Emilia-Romagna (7.4%, $N=47$). Organizations are almost evenly split between those operating at a regional scale (51.6%, $N = 327$) and those with national reach (48.4%, $N = 307$). The majority are located in category A areas (62.3%, $N = 393$), denoting relatively central and well-connected contexts. Category C accounts for 18.0% ($N=114$), while only 0.6% ($N = 4$) fall within the most marginal category F. Public institutions represent the largest governance category (28.9%, $N=183$), followed by Third Sector Organizations (18.1%, $N=115$), Social Promotion Associations (13.1%, $N=83$), and Foundations (11.7%, $N=74$). For-profit entities account for less than 15% of the sample. Foundation dates range from 1088 to 2024. Table 1 describes the sample's composition in terms of its cultural sector and summarizes the two variables used in the analysis, including organizational size and network membership. Cultural heritage organizations represent the dominant sectoral category (61.5%, $N=390$), followed by performing arts (24.8%, $N=157$), education (5.8%, $N=37$), visual arts (3.5%, $N=22$), audiovisual and multimedia (2.5%, $N=16$), and publishing and printing (1.9%, $N=12$). It is worth noting that micro- organizations predominate. Those with fewer than five employees account for 37.5% ($N = 238$); those with six to ten employees account for a further 28.1% ($N = 178$). Together, they comprise nearly two-thirds of the sample. Medium-sized organizations (51-100 employees) are marginal (11.5%, $N=73$). Finally, a majority of organizations (60.1%, $N = 381$) belong to at least one network; sectoral networks are the most prevalent type (49.1%).

Table 1. Sample Characteristics (N=634)

	Total	%
Cultural sector (ESSNet Culture)		
Cultural heritage	390	61.5%
Performing arts	157	24.8%
Education	37	5.8%
Visual arts	22	3.5%
Audiovisual and multimedia	16	2.5%
Publishing and printing	12	1.9%
Total	634	100%
Organizational size (number of employees)		
<5	238	37.5%
6-10	178	28.1%
11-25	88	13.9%
26-50	57	9%
51-100	73	11.5%
Total	634	100%
Network membership		
Yes	381	60.1%
No	253	39.9%
Total	634	100%

Source: authors on data from Fondazione Santagata, 2024

Research limitations. The vast majority of organizations (78.7%, $N=499$) report no staff dedicated to sustainability. A further 19.9% ($N=126$) have staff who address sustainability among other responsibilities. Only 1.4% ($N = 9$) employ exclusively dedicated personnel. Among organizations without dedicated green staff, the perceived importance of such a role was rated at a mean of 3.00 ($SD=1.181$), corresponding to “Moderately important” as both the median and modal response (28.2%). Whereas “Very important” was selected by 17.0% and “Almost irrelevant” by 10.7%. Sustainability training is similarly limited. Only 22.1% of organizations ($N=140$) report providing it. The most covered topics are waste material reduction ($N=84$, 13.2%), waste management ($N=82$, 12.2%), and environmental education ($N=71$, 11.2%). The most common format is the workshop (9.8%); the most frequently cited provider is external consultancy ($N=69$, 10.9%). Annual delivery is the most prevalent frequency (10.6%, $N=67$). Among organizations not currently providing

training, perceived importance was rated at a mean of 3.37 (SD=1.181), with “Moderately important” as the modal response (24.0%), followed by “Very important” (20.8%) and “Fundamental” (15.8%). Almost irrelevant was selected by 6.0% (N=38).

Table 2 shows significant associations between organizational and contextual characteristics, such as organizational size and network membership, and GHRM practices, such as green staffing and training.

Organizational Size and GHRM Practices (RQ1). Organizational size is significantly associated with both outcome variables. The chi-square test reveals a significant association between organizational size and the presence of sustainability-oriented staff ($\chi^2=40.768$, $df=4$, $p < 0.001$; Cramer's $V=0.254$), indicating a small-to-medium effect size.

Row percentages range from 11.9% among organizations with 26–50 employees to 24.4% among those with fewer than five. Adjusted residual analysis nuances this picture. Micro-organizations with fewer than five employees are significantly underrepresented (adjusted residual = -2.5). Small- medium organizations with 26–50 employees (adjusted residual= +3.4) and medium-sized organizations with 51–100 employees (adjusted residual=+3.4) are significantly overrepresented, both exceeding the ± 1.96 threshold. It is worth noting that the highest raw prevalence of sustainability staffing (24.4%) is observed among the very smallest organizations (fewer than five employees); this apparent paradox is resolved by the adjusted residual analysis, which reveals that such organizations are in fact significantly underrepresented given their numerical dominance in the sample, confirming that size is positively associated with green staffing when distributional weight is accounted for. A significant association is similarly observed between organizational size and sustainability training provision ($\chi^2= 10.775$, $df= 4$, $p= 0.029$; Cramer's $V= 0.130$), indicating a small effect size. Row percentages range from 9.3% among organizations with 26–50 employees to 31.4% among those with fewer than five. No individual cell exceeds the ± 1.96 threshold. The strongest tendency towards overrepresentation is observed among organizations with 26–50 employees (adjusted residual= +2.1); micro-organizations with fewer than five employees tend towards underrepresentation (adjusted residual= -1.2), neither reaching cell-level significance.

Network Membership and Green Training (RQ2). Network membership is significantly associated with green training provision ($\chi^2= 7.351$, $df= 1$, $p= 0.007$; Phi= 0.108), reflecting a small effect size. Among non-networked organizations, 30.0% (N= 42) report providing training (adjusted residual= -1.9). Among networked organizations, this figure rises to 70.0% (N= 98, adjusted residual= +1.5).

Table 2. Associations between Organizational/Contextual Characteristics and GHRM Practices

Panel A - Organizational size * Green Staffing					
Size categories	Green Staff “Yes”	Green Staff “No”	Total	%Row	Adjusted Residuals
<5 employees	58	180	238	24.4%	-2.5
6-10 employees	38	140	178	21.3%	-0.2
11-25 employees	19	69	88	21.6%	-0.1
26-50 employees	7	50	57	11.9%	+3.4*
51-100 employees	13	60	73	17.8%	+3.4*
Total			634		
$\chi^2 = 40.768$, $df = 4$, $p < 0.001$, Cramer's $V = 0.254$.					
* Significant at $p < 0.05$ (residual > 1.96).					
Panel B- Organizational size* Green Training					
Size categories	Training Provided	No Training	Total	%Row	Adjusted Residuals
<5 employees	42	196	238	17.6%	-1.2
6-10 employees	38	140	178	21.3%	-0.3
11-25 employees	27	61	88	30.7%	+1.9
26-50 employees	18	39	57	31.6%	+2.1
51-100 employees	15	58	73	20.5%	-0.3
Total			634		
$\chi^2 = 10.775$, $df = 4$, $p = 0.029$, Cramer's $V = 0.130$.					
Note: No individual cell reached statistical significance (residual > 1.96).					
Panel C- Network membership* Green Training					
Network Status	Training Provided	No Training	Total	%Row	Adjusted Residuals
Networked	98	283	381	25.7%	+1.5
Non- Networked	42	211	253	16.6%	-1.9
Total			634		
$\chi^2 = 7.351$, $df = 1$, $p = 0.007$, Phi = 0.108.					
Among networked: 70.0% of training providers.					
Among non-networked: 30.0% of training providers.					

Source: authors on data from Fondazione Santagata, 2024.

Research limitations. Several limitations of the present study should be acknowledged. First, the sample is a non-probability sample, which constrains the generalizability of the findings to the broader population of Italian cultural and creative organizations. Second, the cross-sectional design of the 4C survey does not allow causal inferences to be drawn from the associations observed. Third, the present paper reports exploratory findings for two variables—organizational

size and network membership—as part of a broader ongoing study. Analyses for other variables, including legal form, territorial marginality, cultural sector, university graduates, and the perceived importance, will be reported in future work. Moreover, the operationalization of green human resources practices is narrow, focusing on staffing and training as observable organizational practices. Future studies should also move toward a more granular investigation of both green staffing and green training. The green staffing measure is based on a single survey item asking whether the organization employs personnel responsible for "the planning, implementation, management, and communication of activities aimed at reducing the ecological impacts associated with its operations." This generic operationalization does not capture the actual green-related tasks carried out by staff members, the distribution of environmental responsibilities within the organization, or the informal contributions of employees who engage in green activities without formally designated role. As concerns the green training variable, individual-level dimensions – such as managers' and employees' educational background in relation to Education for Sustainable Development (ESD), as well as their beliefs and attitudes toward sustainability – were not captured by the survey instrument. Incorporating such variables in future research would allow for a more comprehensive assessment of green HRM and its antecedents at the individual level. Finally, the study is limited to the Italian context, which, whilst distinctive in its sectoral composition and institutional framework, may limit comparability with cultural sectors in other national contexts.

Managerial implications. The findings carry practical implications for cultural managers, sector intermediaries, and policymakers. The study is ongoing; the evidence presented here remains exploratory. The first implication concerns organizational size. In highly fragmented sectors such as the cultural and creative industries, the development of green human resources practices is unlikely to depend solely on organizations' internal resources. Rather, it is shaped by the broader availability of external support structures (Cles & Associazione Economia della Cultura, 2021). Micro-organizations are particularly exposed to this structural condition: given their limited internal capacity, sustainability competence development will rarely be achievable through internally driven strategies alone. Hybrid approaches—combining internal learning processes with shared services, subsidized training, and sector-level capacity-building initiatives—are therefore more realistic pathways for strengthening sustainability competences at this organizational scale. For cultural managers in micro and micro-small organizations, this implies that such external scaffolding is likely a necessary precondition for progress, rather than a supplementary option.

The second implication concerns network membership. Networked organizations are more than twice as likely to provide sustainability training (70.0% vs. 30.0%). Professional networks are therefore already functioning as diffusion channels for green knowledge and practices, even if unintentionally.

Two distinct but complementary diffusion pathways can be identified. The first operates through sector-specific networks, which disseminate green knowledge horizontally among organizations sharing the same cultural domain. In the Italian context, ICOM Italia has developed guidelines and best practices for the integration of environmental sustainability into museum operations, promoting peer knowledge exchange across the national museum sector. At the international level, the Network of European Museum Organizations (NEMO), through its dedicated Working Group on Sustainability and Climate Action, has developed training programs on sustainable cultural management, facilitating cross-national knowledge exchange among museum professionals. Similarly, the European Theatre Convention (ETC), a network of European theatres, has adopted sector-specific sustainability standards and launched dedicated training programs for its member organizations, explicitly positioning the network as the primary vehicle through which green competencies are built and diffused. In the visual arts sector, Gallery Climate Coalition (GCC) brings together galleries, artists, curators, and cultural professionals around shared green standards and practices tailored to the national context, while the international coalition provides its members with free sector-specific guidelines, tools, and a dedicated carbon calculator.

A second pathway is represented by cross-sectoral networks, including the ECO Network, which has developed free capacity-building programs targeting organizations operating across the performing arts, visual arts, and cultural heritage sectors, providing shared methodologies and practical tools for green management.

The prevalence of sectoral networks in the sample (49.1%) suggests that Italian cultural organizations privilege the horizontal diffusion pathway.

The direct implication for sector intermediaries and policymakers is that existing cultural networks represent a cost-effective and already-embedded mechanism through which sustainability training content can be systematically disseminated rather than building a completely new infrastructure.

Originality of the paper. This paper makes three original contributions to cultural management literature. First, it addresses a significant gap at the intersection of three areas of scholarship: human capital in cultural organizations, green skills, and green human resource management. Despite developing in parallel, these areas have rarely been brought into dialogue with one another, particularly with cultural and creative organizations, which remain largely absent from the empirical landscape. This study directly addresses this issue by providing, to the best of the authors' knowledge, the first large-scale empirical mapping of green human resource management practices, focusing specifically on sustainability staffing and training, across a nationally representative sample of Italian cultural and creative organizations.

Secondly, the paper makes an empirical contribution that is both geographically and institutionally distinctive. Italy is a particularly relevant national context for this line of enquiry due to the scale and institutional complexity of its cultural sector, the prevalence of micro and small organizations, and the significant involvement of public institutions and third sector organizations in cultural governance (Symbola & Unioncamere, 2024). The findings suggest that there are conditions that substantially shape the adoption pathways of sustainability-oriented human resource practices. This institutional and structural specificity is an analytical asset in itself, enabling the study to examine how characteristics at the sector level — including organizational size and network embeddedness — mediate the diffusion of green practices.

Thirdly, the study contributes to practical and policy literature on cultural management by offering evidence based on empirical research that professional networks already function as channels for disseminating knowledge about sustainability. This suggests that intermediaries and policymakers in the sector need not develop new infrastructures from scratch, but can instead use existing network architectures as cost-effective ways of systematically building capacity.

Taken together, these contributions position the paper as an early but substantive step toward a dedicated research agenda on green human resource management in the cultural and creative sectors. Drawing on the full set of organizational and contextual variables collected in the 4C survey, future explanatory studies will extend the work.

References

- BORRIONE, P., FRIEL, M., & MIGLIETTA, A. (2024). Unlocking innovative potential: examining the contributions of Creative Europe to the Italian cultural and audio-visual sectors. *Il capitale culturale. Studies on the Value of Cultural Heritage*, (30), 461-480.
- CLES & ASSOCIAZIONE PER L'ECONOMIA DELLA CULTURA (2021), Mappatura delle professioni culturali emergenti e i loro percorsi formativi. Report finale. Fondazione Compagnia di San Paolo.
- COMUNIAN, R., & ENGLAND, L. (2020). Creative and cultural work without filters: Covid-19 and exposed precarity in the creative economy. *Cultural trends*, 29(2), 112-128.
- DOMINGUES, A. R., MAZHAR, M. U., & BULL, R. (2023), Environmental performance measurement in arts and cultural organisations: Exploring factors influencing organisational changes. *Journal of Environmental Management*, 326, 116731.
- DUMONT, J., SHEN, J., & DENG, X. (2017), Effects of green HRM practices on employee workplace green behavior: The role of psychological green climate and employee green values. *Human resource management*, 56(4), 613-627.
- DUXBURY, N., KANGAS, A., & DE BEUKELAER, C. (2017), Cultural policies for sustainable development: Four strategic paths. *International Journal of Cultural Policy*, 23(2), 214–230.
- ERNST, D., ESCHÉ, C., & ERBSLÖH, U. (2016), The art museum as lab to re-calibrate values towards sustainable development. *Journal of Cleaner Production*, 135, 1446–1460. <https://doi.org/10.1016/j.jclepro.2016.06.188>.
- FIELD, A. (2018), *Discovering Statistics Using SPSS (5TH edn)*. London: Sage.
- FONDAZIONE SANTAGATA (2024), 4C- Cultural and Creative Carbon Cut. Research Framework (1). Available at: <https://www.fondazionesantagata.it/en/publications/report-4c-research-framework-1/>.
- FONDAZIONE SANTAGATA (2025), 4C- Cultural and Creative Carbon Cut. Results of the National Research. Available at: <https://www.fondazionesantagata.it/en/publications/report-4c-results-of-the-national-research-2/>.
- ICOMOS Climate Change and Heritage Working Group (2019), The future of our pasts: Engaging cultural heritage in climate action. Outline of Climate Change and Cultural Heritage. Available at: <https://indd.adobe.com/view/a9a551e3-3b23-4127-99fd-a7a80d91a29e>.
- JULIE'S BICYCLE. (2021), The missing link to climate action: Research summary. The British Council.
- MENGER, P. M. (2006). Artistic labor markets: Contingent work, excess supply and occupational risk management. *Handbook of the Economics of Art and Culture*, 1, 765-811.
- NUCCIO, M., & MOGNO, S. (2023). Knowledge, skills, and competences (KSC) in the knowledge-based economy. In *Mapping digital skills in cultural and creative industries in Italy: A natural language processing approach* (pp. 1-22). Cham: Springer Nature Switzerland.
- PALUMBO, R., MANNA, R., & CAVALLONE, M. (2022). The managerialization of museums and art institutions: perspectives from an empirical analysis. *International Journal of Organizational Analysis*, 30(6), 1397-1418.
- RENWICK, D. W., REDMAN, T., & MAGUIRE, S. (2013). Green human resource management: A review and research agenda. *International journal of management reviews*, 15(1), 1-14.
- SYMBOLA & UNIONCAMERE (2024), Io Sono Cultura 2024. Available at: <https://symbola.net/ricerca/io-sono-cultura-2024/>.
- TUKEY, J.W. (2020), *Exploratory Data Analysis*. Hoboken, NJ: Pearson (originally published in 1977).

Websites

<https://galleryclimatecoalition.org/>
<https://www.icom-italia.org/sostenibilita/>
<https://www.istat.it/dati/tavole-di-dati/>
<https://ec.europa.eu/eurostat/web/structural-business-statistics>
<https://politichecoesione.governo.it/it/>
<https://www.ne-mo.org/advocacy/our-advocacy-themes/museums-and-sustainability/>