



Research article

Environmental performance measurement in arts and cultural organisations: Exploring factors influencing organisational changes

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ABSTRACT

Arts and Cultural Organisations (ACOs) have received significant attention over the last few years regarding their environmental performance. ACOs are often non-profit organisations, relying on government funding to implement various programmes to support societal development. Funding dependence can shift ACOs' focus from creating socio-cultural value to being more commercially driven. This paper explores factors influencing organisational changes in ACOs related to environmental performance measurement. Stakeholders in ACOs based in Nottingham, England, were interviewed and participated in a workshop to validate and collect additional data. Our research uncovered five interrelated factors that influence organisational change: the role of funding bodies; local policies and networks; organisational culture and leadership; lack of resources; and building proprietary-tenant relationships. This paper contributes to understanding ACOs responses to measuring environmental performance and the challenges they face as they move from measuring to implementation. Implications are explored for how funding is allocated and understood in terms of moving beyond merely measuring the carbon footprint of activities. ACOs' funding dependence indicates a focus on carbon measurement, omitting a more holistic approach towards the environment and sustainability.

1. Introduction

There is an anecdotal story that when Winston Churchill was asked to reduce funding to the arts to support the war effort in World War II, he responded, 'Then what would we be fighting for?' Arts and cultural organisations (ACOs) play a unique and essential role in society and have an opportunity to lead in driving societal change and transformation towards sustainability. It is argued that sustainability needs culture, and culture needs sustainability to survive and thrive going forward (Julie's Bicycle, 2015). Duxbury et al. (2017) identify four objectives of cultural policy (i) to safeguard and sustain cultural practices and rights; (ii) to decrease the impacts of operations and cultural organisations and industries; (iii) to enhance awareness and catalyse actions about sustainability; and (iv) to foster ecological citizenship.

ACOs are relatively unique organisations in society and are often non-profit organisations (NPOs). NPOs provide services to improve humanity's overall status, including economic and social situations, response to challenges, environmental preservation, and other humanitarian causes. NPOs have a key leadership role in responding to

community needs and work across sectors ranging from health care, educational institutions, and religious and advocacy groups (Prugsamatz, 2010).

The economic and institutional constraints in NPOs are significantly different from the for-profit sector (Dart and Hill, 2010). NPOs' dependency on funders influences behaviour and the possible competition for scarce resources between social, usually the primary mission of NPO, and environmental issues (Dart and Hill, 2010). However, little attention has been paid to the factors influencing organisational changes in NPOs related to their sustainability performance measurement.

In the context of NPOs, the term 'sustainability' has been predominantly used to describe NPOs that can sustain themselves over a long-term period to fulfil their core mission and objectives. However, in NPOs, sustainability includes financial sustainability, leadership succession planning, adaptability, resilience, and strategic planning (National Council of Nonprofits, 2022). In 2018/19 ACOs total carbon footprint was 114,547 tonnes CO₂e from energy use, waste, water, business travel and touring (Arts Council England, 2020). Thus, bringing the environmental dimension into the sustainability debate in ACOs is

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paramount, especially given the scale of the collective environmental impact of ACOs. Given the UK government's targets to reduce all greenhouse gas emissions to Net Zero by 2050 (HM Government, 2021), there is work to be done.

The Arts Council England (ACE) is the main funding source for ACOs in England. It is a Public Sector Organisation (PSO) characterised as a Non-Departmental Public Body (NDPB). NDPBs have a role in processes related to the national government but do not belong to any minister's department (Cabinet Office, 2006). The ACE aims to support creativity and culture, funded by the Department for Culture, Media and Sport. In 2012, ACE launched an Environmental Programme in partnership with Julie's Bicycle that included environmental reporting, policies, and action plans as part of funding agreements for ACOs (Arts Council England, 2020). Julie's Bicycle is an NPO that partners with ACE to deliver ACOs' environmental reporting framework. Fig. 1 depicts the environmental areas ACOs need to measure environmental performance as part of the funding requirements.

All ACOs applying for funding to the ACE need to identify the relevant areas from Fig. 1 and account for their CO₂e emissions. Julie's Bicycle created 'Creative Green Tools' that enable ACOs to add data related to the different activities illustrated and calculate CO₂e emissions. It also provides guidelines on reducing environmental impacts, particularly those associated with the built environment.

ACE's strategy for 2020–2030 defines four investment principles, including 'environmental responsibility', highlighting as the most significant challenge the 'climate crisis and environmental degradation' (Arts Council England, 2021). ACE identifies the climate crisis as something separated from environmental degradation, which shows the adoption of a dominant environmental agenda that prioritises climate change as the most important environmental impact. Also, in its strategy, ACE focus on the role of ACOs in reducing carbon emissions of their business and buildings, particularly by increasing recycling levels and reducing plastic and water consumption degradation (Arts Council England, 2021). Consequently, it echoes a global north environmental agenda fixated on materials use, particularly plastic, as the focus of change.

At the same time, non-governmental networks have emerged to share practices and guidelines with ACOs. One of these examples is the Gallery Climate Coalition, an international charity with members across the globe. Even though it still focuses on calculating the impacts of carbon emissions, it expands previous guidance by highlighting the key role in lobbying for a more significant systemic change in the sector and

raising funds from within the art market to support initiatives (Gallery Climate Coalition, 2021). Another voluntary initiative is the Theatre Green Book which includes specific guidance to decrease environmental performance in production, buildings, and theatre operations.

ACOs have received attention over the last few years regarding their environmental performance and have become the stage of environmental activism recently. ACOs, particularly small and medium-sized, rely on government funding to implement their programmes and activities and are required to implement policy initiatives based on government priorities. Various authors have discussed the influence of the government and other powerful stakeholder groups in ACOs, such as financial institutions and universities (Abdullah and Khadaroo, 2022; Crepez et al., 2016; O'Brien et al., 2022). Their influence can shape ACOs' focus on what to measure, making them often more commercially driven and diluting their focus on creating socio-cultural value. Measuring the environmental performance of ACOs and factors influencing organisational changes for sustainability remains underdeveloped.

This paper explores the factors influencing organisational changes in NPOs related to environmental performance measurement. Key stakeholders in nine ACOs were interviewed, and a workshop was organised to validate data from interviews and collect additional data. A total of eleven ACOs based in Nottingham, England, were engaged during the interviews and the workshop.

The following section presents a critical review of the literature. Section three explains the design and methods used in the research. Section four illustrates the findings exploring the major factors related to environmental performance measurement in Nottingham-based ACOs and their influence on organisational changes. Section five discusses the main findings with the literature, and section six presents the main conclusions, including research contribution and implications.

2. Literature review

Organisations are increasingly considering environmental issues due to stricter government regulations and growing pressure from stakeholders (Hofmann et al., 2012). Improving environmental performance comes with well-known benefits such as financial, commercial, legal, reputational, and improved employee recruitment and retention (Shields and Shelleman, 2017). Similarly, ACOs can have a significant societal role as change agents for sustainability, such as educators for sustainability in society and reducing their impact by improving environmental performance through programming and measuring impacts across the supply chain.

The role of ACOs in education for sustainability can include organising events on sustainability, but also the way values are transmitted to show the importance of systems thinking, justice, responsibility and ethics and interpersonal relations. For instance, Ernst et al. (2016) highlight the key role ACOs can have in preparing for system change and inspire other organisations to follow suit. Art is often the driver in shaping cultural debates and influencing behaviours. Also, ACOs can actively enhance sustainability competencies in society by adopting pedagogical approaches related to community and social justice and environmental education, as defined by Lozano et al. (2017). These pedagogies can be linked to various sustainability competencies such as system thinking; interdisciplinary work; anticipatory thinking; justice, responsibility, and ethics; critical thinking and analysis; interpersonal relations and collaboration; and empathy and change of perspective.

Research has shown that financial crises have influenced the spread of tools and behaviours previously only adopted by the private sector to other sectors, such as ACOs (e.g., Duxbury et al., 2017; Oakes and Oakes, 2016). ACOs have been pressured to act for their survival, engaging in activities to enhance their income and compete for funding (Abdullah et al., 2018). According to these authors, their focus on economic objectives might conflict with their socio-cultural objectives. Consequently, there has been a shift from focusing on the socio-cultural value

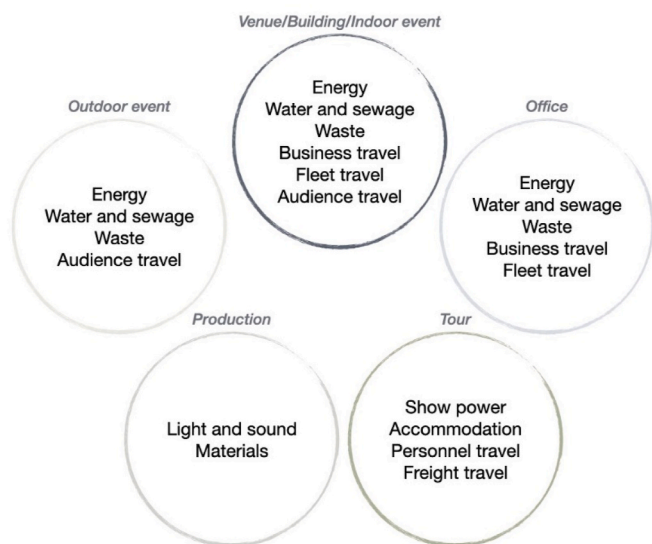


Fig. 1. Environmental performance measurement requirements per activity (Based on Julie's Bicycle, 2018).

of ACOs to the need to show their economic value reflecting the adoption of a neoliberal agenda. NPOs like ACOs have been forced to focus on embedding sustainability in strategic and operational levels of management due to increased competition (Weerawardena et al., 2010). Carlucci (2018) states that in today's landscape, ACOs need to strive for excellence in their business model management to create and deliver value more sustainably.

Previous studies have shown that reducing costs is one of the drivers for adopting practices to reduce environmental impacts, such as energy costs (e.g., Lozano, 2015; Moskin and Oman, 2012). In recent years, ACOs have benefited from EU-funded projects to support various carbon reduction activities, such as lighting upgrades to increase energy efficiency. The funding available to implement specific changes has helped deliver some environmental improvements. However, more transformational changes involving, e.g., rethinking their mission, purpose, and strategy, have been scarce. In the private sector research context, Ullah and Nasim (2021) argue that embedding environmental targets in corporate strategy can encourage managers to develop sustainable practices.

A transformational, radical, or 'deep-seated' change is often associated with changes at the level of interpretative schemes (Narayanan and Adams, 2017). According to Laughlin (1991), interpretative schemes can be characterised by three levels (i) a set of beliefs, values, and norms, (ii) mission/purpose, and (iii) metarules. The notion of interpretative schemes can be linked to institutional logics (Narayanan and Adams, 2017). Individuals and organisations' interests, identities, values and assumptions are embedded within prevailing institutional logics (Thornton and Ocasio, 1999).

Multiple institutional logics compete to drive specific organisational changes. Non-institutional forces influence institutional change, such as resource dependencies, political struggles and social movements (Thornton and Ocasio, 1999). However, Wijethilake and Upadhaya (2020) argue that implementing sustainability strategies effectively requires a substantial change in conventional business operations. There is ample debate over the integration of sustainability in businesses, mostly in private sector context. Some businesses understand implementation as an incremental improvement over business as usual, while others understand implementation as a paradigm shift in thought and action leadership (Landrum and Ohsowski, 2018).

Research has shown that organisational changes are driven by internal and external factors (Domingues et al., 2017; Lozano, 2018; Lozano et al., 2016). According to these authors, there is a higher tendency for internal drivers in PSOs due to their voluntary status. In contrast, in the private sector, both external and internal factors play a role. NPOs are out of the scope of most regulations or legislation on environmental performance measurement.

Some authors have discussed leadership and organisational culture's crucial role in implementing transformational changes. The organisational culture, driven by the prevailing institutional logics influences the decision to measure and report environmental performance. Organisational culture is the set of shared values and norms that shape interactions within the organisation and with others (Jones et al., 2013). According to these authors, the shared meanings and norms of behaviour are based on organisational ethics and structure, property rights, and the characteristics of people within the organisation. Organisational culture can help shape organisational reality (DiMaggio and Powell, 1991). At the same time, Moskin and Oman (2012) discuss how the lack of staff capacity, resources, and time may constrain organisational actions. According to these authors, environmental literacy is the first step toward organisational change.

Lozano and von Haartman (2018) ranked a variety of internal and external drivers that can facilitate changes, namely (i) proactive leadership, (ii) reputation, (iii) moral and ethical obligation to contribute to sustainability, (iv) increased levels of social awareness of sustainability, (v) organisational culture, (vi) regulation and legislation, (vii) collaboration with external parties, (viii) avoiding risk, and (ix) national or

regional policies. Thakthathi et al. (2019) discuss 'sustainability leadership', suggesting multiple influencing strategies that leaders in the private sector can use for corporate sustainability and institutionalise change. Also, the social context, in combination with organisational factors, can play a key role in the decision to adopt sustainability reporting processes as 'business as usual', 'the right thing to do', but also to 'fit in' (Bebbington et al., 2009). ACOs are very diverse in their operations compared to the private sector; therefore, it remains unclear what factors influence organisational changes related to environmental performance measurement, indicating a gap in the literature this paper seeks to address.

3. Research design and methods

The research adopted an interpretive lens to uncover, describe and theoretically interpret actual meanings social actors use in a specific context (Gephart, 2004). The research aims to create a new, richer understanding and interpretation of organisational change in ACOs. According to Saunders et al. (2019), this study assumes that: (i) the nature of reality is complex and socially constructed with multiple interpretations and fluctuation of processes, experiences, and practices; (ii) there is a focus on narratives, stories, perceptions and interpretations, which may constitute adequate knowledge; and (iii) it is value-bound research as researchers' interpretations are critical to the analysis.

Nottingham was chosen as the area of focus as this was the location of a research project aligned with Nottingham Trent University's Sustainability in Enterprise (SiE) programme part-funded by the European Regional Development Fund (ERDF). The SiE supports Small and Medium Enterprises (SMEs) based in the Greater Nottingham area to decrease their CO₂e emissions through consultancy and dedicated funding. ACOs emerged as a significant type of organisations the project was supporting, and a total of twelve Nottingham-based ACOs were invited to participate in the research project. This allowed to control of extraneous variation and supported the definition of limits for generalising research findings (Eisenhardt, 1989). Nine ACOs accepted to be interviewed.

The range of organisations enabled the research team to implement a cross-sectional study by collecting data through semi-structured interviews to gain an in-depth understanding of the representatives' perspectives on factors influencing organisational change related to environmental performance measurement in ACOs. Interview protocol questions were focused on the participants' own experiences in the context of their organisational settings.

As part of the conceptual framing of the research, an interview guide was developed based on the previous literature on organisational change for sustainability (e.g., Domingues et al., 2017; Lozano et al., 2016) and *Julie's Bicycle*, 2017. Themes and questions informed by these sources helped design a flexible interview guide to support dialogue between the interviewer and interviewee (Bryman, 2016). It was essential to create a guideline which was flexible enough to adapt to the responses of each interviewee (Saunders et al., 2019).

During the interviews, participants were asked about their experiences to avoid generic answers that could show bias in the findings. Interviewees were asked for specific examples to increase the authenticity of the data collected. Questions included (i) perception of main organisational environmental impacts and changes needed; (ii) key organisational environmental commitments in place or need to be adopted; (iii) key stakeholders' role in reducing environmental impacts, accountability, and responsibility; (iv) motivations and barriers to improving environmental performance; (v) existent or planned strategies and their link to activities; and (vi) key-stakeholders in the organisational change process. The interview guide used can be found in Appendix A.

As stories matter in this research, gathering data from key stakeholders' experiences on the current and past elements was crucial. The

interviewer collected insights or understanding of opinions, attitudes, experiences, processes, behaviours, and predictions (Rowley, 2012). It can be assumed that the participants are knowledgeable agents, as highlighted by Gioia et al. (2012). As suggested by Eisenhardt and Graebner (2007), to limit bias from data gathered from the interviews, multiple and highly knowledgeable informants (interviewees) who viewed the phenomenon from various perspectives were interviewed.

The profiles of the interviewees are summarised in Table 1. According to the UK Standard Industrial Classification (SIC) Hierarchy (Companies House, 2018), all organisations belong to the Arts, entertainment, and recreation section and the Creative, arts and entertainment activities division.

Following the ethical considerations defined by Fontana and Frey (2003), all interviewees were guaranteed confidentiality, and the goals and use of their responses were explained. Interviewees' personal names and the organisation's identity are not disclosed to ensure the confidentiality of the information provided during the interviews. Lasting up to an hour, notes were taken during the interviews to complement the information in the initial interview guide. Interviews were audio-recorded and transcribed to support the data analysis process. During transcription, also self-memos were added to a notebook to support the analysis.

Interviews took place between October and December 2021 in person or online via MS Teams. The timeline of the interviews coincided with the COP26 (Conference of Parties) in Glasgow, Scotland. The event was significantly highlighted in British media and pop culture. This might have influenced some of the interest in the project and the participants' responses. Furthermore, an online workshop was organised in July 2022 to validate data from the interviews and collect additional data, particularly on identifying strategies to overcome the organisational change barriers identified in the interviews.

A total of eleven ACOs were invited to participate in the workshop, including ACOs that had been interviewed and others that enrolled in the SiE project from January 2022. The workshop had seven participants representing five ACOs in Nottingham. Three out of the five organisations were also interviewed in the first stage, but only one of the

participants took part in the interview and workshop. Two ACOs that did not participate in the interviews participated in the workshop. Table 2 illustrates the profile of the workshop participants.

The workshop was divided into two halves. The first half involved evaluating the drivers and barriers to organisational changes identified in the interviews by ACOs' representatives using a Likert scale (for details, see Appendix A). After this, the second part was a focus group to identify the major challenges and strategies to overcome barriers. The authors of this paper acted as facilitators to encourage discussions and enable participants to share perceptions to construct shared meaning and provide in-depth insights. The research team also took notes on the debate's content that could characterise the specific factors involving change processes in ACOs.

This research aims to provide evidence in a particular context rather than create general rules concerning how a phenomenon works (de Villiers et al., 2019). It assumes that social phenomena are a social construction resulting from their interaction and are in a constant state of revision (Bryman, 2016). A significant value of this type of research is the description and understanding of human interactions, meanings and processes that compose real-life organisational contexts (Gephart, 2004). Interviews and focus groups are research methods frequently used in this research field to gather data, see, e.g., Abdullah et al. (2018), Carlucci (2018) and Oakes and Oakes (2016).

Data analysis was conducted using an inductive approach to search for and recognise meanings in the data and understand the participants' social context and perceptions (Saunders et al., 2019). A thematic analysis was adopted to search for themes or patterns related to the research questions. Data was coded and reorganised into analytical categories, but simultaneously, participants' voices were allowed to emerge to explore different interpretations of the phenomenon (Saunders et al., 2019). Firstly, data was coded; secondly, codes were incorporated into categories; thirdly, interpretative themes were identified and their respective relationships. The themes identified in the interviews guided the research team to conduct the literature review presented in section two, which allowed the research team to discuss the findings.

Nvivo 12 Plus was used to share the original data and thematic

Table 1
Description of ACOs and interviewees' profile (*identifies organisations funded by Arts Council England).

SIC (class)	Organisations (description)	Organisational size	Job title
91,020: Museum activities	NM: National Museum*	Small (10–49 employees)	General manager
90,040: Operation of arts facilities	Art1: Contemporary art gallery* Art2: Artist-led contemporary visual arts gallery* Art3: Contemporary visual arts and cultural gallery*	Small Micro (1–9 employees) Small	Director of operations Operations Manager Director
90,030: Artistic creation (activities of individual artists and writers, independent journalists, restoring of works of art)	AC1: Arts and creative space AC2: Art gallery and studios* AC3: Community and artist-led space*	Micro Micro Micro	Owner and creative leader Director Deputy director, finance and operations
90,010: Performing arts (live theatrical presentations, concerts and opera or dance productions and other stage productions)	T1: Community theatre T2: Theatre*	Run by volunteers Medium (50–249 employees)	Chair of the board of trustees Facilities manager

Table 2
Description of ACOs and workshop participants' profile (*identifies organisations funded by the Arts Council England; *identifies participant also interviewed).

SIC (class)	Organisations (description)	Organisational size	Job title
90,040: Operation of arts facilities	Art3: Contemporary visual arts and cultural gallery*	Small	-Chief Curator of Exhibitions & Life Programmes -Assistant Curator -Head of Audiences & Partnerships Co-Director
90,030: Artistic creation (activities of individual artists and writers, independent journalists, restoring of works of art)	AC2: Art gallery and studios*	Micro	
90,010: Performing arts (live theatrical presentations, concerts and opera or dance productions and other stage productions)	T2: Theatre* T3: International centre for the development of dance* T4: Theatre and concert hall	Medium Small Medium	*Facilities Manager Chief Executive Business Performance Director

coding of the data collected through the interviews among the research team. The nine interviews allowed the researchers to reach a point of theoretical saturation and answer the research questions. In addition, the workshop validated the identified factors and gathered additional information that supported understanding the phenomenon being studied.

4. Findings

4.1. Funding bodies

Funders are key stakeholders in NPOs. The requirements set by their agenda influence ACOs' strategy and operations. The ACE is the main funder of seven of the nine organisations interviewed. Thus, its most recent investment principles, including environmental responsibility, significantly impacted most ACOs analysed in this study. Among the investment principles, measuring environmental indicators aligned with Julie's Bicycle framework became mandatory. Participants have identified that this environmental measurement was not a priority before.

(...) Before that, (...) it was some way down the list for things, but now it's as central as questions of diversity and inclusion, of the relevance of dynamic business models and all the rest, so that's been a shift. (Art3)

So far, the requirements only focus on measuring CO₂e emissions of activities identified in Fig. 1. Consequently, most participants referred to those activities as the most important environmental aspects due to the funding requirements and their higher awareness of these impacts. Particularly energy consumption due to the conditions art galleries need to maintain and travelling impacts due to how production is transported between venues.

There are no requirements on how the impacts are related to organisational policies or strategies nor specific measures on how to reduce impacts. Thus, even though environmental indicators are measured, it is unclear to which extent transformational changes are implemented.

I have to say it's going to be a long process. I still don't feel like there's any particular pressure there to actually cut emissions (...) There's the kind of pressure to report and to understand more, but actually, how we might change our practices hasn't yet been part of the conversation. (Art3)

The environment is one of their [the ACE] new things that we have to look at, and we have to make sure that we're setting ourselves targets, and we're monitoring against those targets. So that's why they use Julie's Bicycle, because it is a good system, and it quite clearly tells you what you're using, tells you what your carbon footprint is, but it doesn't tell you how to reduce it, so it is just a monitoring kind of system. (Art2)

The current system is being used to measure environmental performance as it influences the chances of funding. Also, it allows ACOs to identify their status quo regarding CO₂e emissions and compare their performance with other ACOs in the same field. Less is achieved regarding the impact that ACOs have.

Getting a benchmark to actually understand where we are currently at in terms of our CO₂e emissions – that's another challenge that we've got to reach that we actually understand what impact we're currently having (Art1)

During the workshop, most participants agreed that the funding requirements have motivated measuring environmental performance, but no concrete measures for reducing impacts and what their impact represents are achieved. This may suggest a lack of coordinated and joined-up efforts to reduce the environmental impacts within ACOs.

4.2. Local policies and networks

Nottingham City Council (NCC) has made a public commitment to becoming carbon neutral by 2028 (Nottingham City Council, 2022). Some participants mentioned how measuring environmental performance could be part of a bigger picture that tells the city's story in its sustainability journey.

Trying to bring about the changes to the plan because I know that will create the single biggest impact on our carbon reduction, will align us with the goals of the city as much as possible and will produce one of the biggest kinds of success stories that we could post as an organisation and talk about. (T2)

I would like to think that we have a key role in terms of our relationship with the City Council in promoting, well, all sorts of agendas which have to do with making the city a better place to live and making people's lives better within the city. (AC3)

We're working for the City Council and their energy efficiency programme because, obviously, the city has an overall ambition to be carbon neutral by 2028, so they're investing time, energy and money into helping organisations like ourselves. (Art1)

However, it is unclear how Nottingham will reach its ambitious goal, and there is no evidence of joint work with ACOs.

The city itself has these ambitious targets. Candidly, I'm not really sure how they're going about meeting those targets. (...) there are seven years away or whatever, (...) even though we're one of the largest cultural organisations that are funded by them, there's hardly been a conversation about this. (Art3)

Besides NCC commitment, there is also an active network of ACOs engaged in exchanging practices to identify solutions to improve their environmental performance. Notably related to touring, exhibitions, travelling audiences, reducing energy consumption, improving the well-being of artists in the building, and applying circular economy principles. A local exchange network can be key in implementing transformational organisational change, particularly in establishing a local culture. However, like other NPOs, ACOs are still in the early stages of measuring their environmental performance.

We've also worked or talked with various other cultural organisations, who have been doing some interesting work around, particularly non-building related emission saving around things like strategic touring, exhibition installation, the audience – travelling of the audience, to inform venues, etc. (Art1)

I was like really struck after having done this carbon audit. I then reached out to a number of similarly sized organisations around the UK to say like 'Be great to share numbers', and they just haven't done it yet, and their kind of question was like 'how to do it?' Like 'how much time to take?' and so on. So, I think that kind of trying to take on a role where you're also helping other collaborators, partners that do that kind of work too. (Art3)

(...) if you're going to get really pragmatic about it, we want to do this stuff because it's good for us. There is definitely that kind of selfish motivation. It's good for the partnerships that we can form. (AC3)

During the workshop, the role of the NCC and ACOs network was not seen as playing a significant role in measuring, implementing changes, and reporting on environmental performance. This might have happened when compared to the role of the funding requirements. Nevertheless, in the focus group, participants identified the need for joint work of Nottingham-based ACOs to implement changes, including close collaboration with NCC, especially concerning identifying funding opportunities to invest in measures to reduce CO₂e emissions.

4.3. Organisational culture and leadership

ACOs have a crucial role in positively impacting society through their activities. Participants identified mostly internal stakeholders to support organisational changes. Particularly (i) staff that lead to daily activities to implement changes needed, (ii) artists that rent the space, (iii) leaders, namely the board of trustees, to put sustainability on the agenda and prioritise it. In the sustainability field, several participants highlighted the active engagement of ACOs on environmental issues.

(...) if organisations like ours aren't doing this work and leading this work, like where else should we be looking? (Art3)

I think 'cos we're quite lucky 'cos in the arts people just really care about these things. (...) And I think that's the thing where people make suggestions. (AC2)

In the workshop, participants discussed the need for effective leadership aligned with sustainability as a strategy to implement changes. Still, most changes to start measuring and managing sustainability align with the overall continuity of current strategies and operations. Only a few participants highlighted the need to rethink how ACOs work. Art3 discussed the unsustainability of how ACOs were conceived 'more or less as a 20th-century model institution', which did not consider their role on social inequalities, environmental degradation and economic disparities.

(...) We are like deeply tied, implicated in these histories of industrialism and colonisation. I mean, this isn't like news, but I think it's important when we're thinking about like why do we have such an unsustainable model. (Art3)

Most participants in the workshop strongly agreed that their organisation should play an active role in legacy and advocacy for sustainability, even though they recognised that currently, most do not have an active role yet. Some of the issues are the conditions to display specific artwork, which may lead to more significant environmental impacts. It is unclear to what extent different environmental conditions would still allow the proper display of artwork associated with fewer environmental impacts.

A big challenge for museums is energy consumption and its consumption related to the environment, and environmental conditions in the galleries. These are a requirement of lending institutions, and of private individuals who are lending works, and so we're essentially duty bound to do this. (...) I think what we can be doing is advocating to those whom we're borrowing artworks from, as well as to insurers and shipping agents. (Art3)

Another way is to organise exhibitions and symposiums to discuss various sustainability issues, namely the role of inequalities on environmental impacts, colonialism, climate justice and degrowth. ACOs can be 'a model in some way or an experimental playground for ways of being' (AC1).

I think art often reflects the world around us and the times we're living in, and it also comes at times to be supposed to feel enlightened and inspired. But it can also be a space to feel ... Maybe not so comfortable with what's going on around you, so I think the drivers for me personally are that actually, I can also learn, the members can learn, the staff can learn, and the audience can learn something new. (AC2)

How are artists helping us see these things, new kinds of waves? This is partly what our new exhibition is about. (...) It's what are the ways in which artists can help us think about the future or imagine different possibilities? 'Cos otherwise, we may as well just be like solicitors or something like that. (Art3)

Interviewees also mentioned the impact recruiting staff aligned with sustainability values might have in driving the needed changes. This can

be seen as the main attraction for staff retention to work for an NPO.

(...) in this day and age where our industries are even more financially and tightly managed in terms of money received from the public purses and the requirement to generate more income internally. (...) you aren't able to offer roles at commercial rates (...). So, you are competing in a very competitive job market and having an organisation that can reflect individuals' values around sustainability and environmental issues can be one of those factors that can encourage people to come and work for you, even their salary, which is a pittance. (T2)

A few participants, mainly from micro-organisations, highlighted the role of working closely with the community in line with their original mission of creating social value. Predominantly through giving access to artists with affordable studios and focusing activities on community needs.

We are trying to *provide reasonably-cost studio spaces for artists in Nottingham. And we are trying to be a community space as well.* (Art2)

(...) it's a communal workshop space. But where the community is our environment, as well as humans. (AC1)

AC1 mentioned their decision to create roots in one place instead of touring different locations. This decision permitted them to have a more significant impact on the community, allowing them the time to create relationships and better know the community's needs.

There's already a preconceived notion of what that community might need without possibly there being any engagement with the community. So, that used to infuriate us, so we'll just like, let's stop doing that and stay, stay where we are, and actually just do it here. Because we know what we need, I guess the idea was to get to become smaller, because that felt more erm, perversely we could make bigger changes then – the mental. (AC1)

The social impact of ACOs can be particularly significant in decreasing access to information and enhancing education for sustainability in often marginalised groups.

I think arts and culture sit in a really interesting place in terms of raising public awareness and promoting behaviours and lifestyle changes. I think there's a lot of potential for the work that we do to be part of that messaging, particularly given that we (...), in particular, have a remit to help support communities and to work with communities who are often marginalised or under-invested in. (AC3)

4.4. Lack of resources

Despite the previous factors that can positively influence ACOs environmental performance measurement, participants highlighted that the lack of resources, such as finance, human and time-restricted them from implementing transformational changes.

The only thing that's stopping us basically is money. (...) But when we started talking about greener opportunities and the way of thinking about saving the organisation money, when he had long-term money, then they [board of trustees] sort of take that on board and say, 'well you go and run with it, and bring us the report' (NM)

All participants in the workshop agreed that the lack of financial resources was a major barrier. Most changes implemented have been related to funding opportunities available from the ACE and other national and European sources. To access funding opportunities, ACOs must align with the agenda set by external partners. Opportunities have been mostly related to reducing operational costs. For instance, installing LED lighting or more efficient boilers. Funding dependency leads to the implementation of a specific agenda decided by external

stakeholders, regardless of being the most important area of improvement or not, as noted by the participants in the workshop, and particularly T2.

It becomes a hybrid of what suits you or what suits academic development, and the funding can be acquired by yourselves to bring through projects such as this [the SiE project] against the goals that we've got and therefore, you know, there might be some things we can't do that would have a higher benefit. So, there is a strong lead by the funders to drive, and there are various mechanisms there to say and thoughts about how we should be doing that. (T2)

ACOs rely on other organisations to complement the lack of internal knowledge or capacity for sustainability. None of the ACOs studied has staff specifically working on environmental performance. However, despite the lack of internal knowledge, none recognised the need for individuals focused on this. Most organisations believe that supporting sustainability-related changes should be the responsibility of people already within the organisation and that the lack of knowledge can be solved by training.

(...) understanding what the issues are, how they relate to the kind of practical day-to-day managing and commissioning of different aspects of the business. So, I think getting a level of understanding across the organisation is one well-known issue. (Art1)

Another interviewee mentioned the importance of increasing in-house knowledge to empower people.

(...) having a stake and a say in how things progress and change and feeling empowered to make those changes themselves as well – to help us to make this place better and more fit for going on wherever it's going to go. I guess that's what it's about for me; it is empowering people to make those changes without recourse to external organisations as much or waiting for the policy or whomever it is to come and do it for them. (AC1)

Nevertheless, even though staff might gain more specific knowledge to implement changes, it probably will not be part of their main tasks, so it seems like something ACOs can only engage with if there is enough time.

I think the main issue is resources, and that would be the time for me. It's the time that as the person within the organisation who was supposed to lead on this, it has actually to lead on it, and so I don't give it half the time that it deserves and a fraction of the time that I should (T2).

There is also the risk of timing in terms of planning exhibitions. Even though the reduced impact of transporting artwork by rail or sea is recognised compared to air travel, there are time restrictions. Particularly, smaller ACOs may not afford to plan months in advance due to their small scale.

I think another is time – frankly, both time in terms of being able to learn more about our own impact but specifically around exhibition planning. If you're shipping something from New York and you've committed to only using sea freight, you need to build in three months. (Art3)

The workshop participants agreed that the lack of internal knowledge and time had restricted ACOs in measuring environmental performance, implementing changes and reporting. Consequently, some ACOs partnered with other organisations to bridge the knowledge gap through multiple regional and local programmes with funding to apply an environmental agenda.

For instance, micro-organisations can develop valuable relationships with key stakeholders to reduce the use of raw material extraction in developing their activities or building their space. One of the interviewees nurtured relationships with people in buildings nearby to use reclaimed materials from demolitions and enable them to build their

space. Nevertheless, it was recognised by the participant that they '*had the luxury of, or we've allowed ourselves the luxury and the ability to see this as possible, that we didn't need to have premises that were finished (...) we did have lots of plans and drawings and ideas. But always being willing to just wait and go, be slow and changing if necessary*' (AC1). This is, however, a privilege exclusive to micro-organisations. Others, despite still small, have their mission and activities tightly planned and need to be achieved; otherwise lose their capacity to be externally funded.

Most participants are happy to receive any consultancy work that is freely available to bridge the gap between their lack of expertise on the topic, time, and financial resources. Particularly, Universities are seen as credible partners. In the workshop, participants highlighted that focusing on buildings would guarantee the most CO_{2e} reductions.

4.5. Building proprietary-tenant relationship

Most of the available funding focuses on the built environment, particularly energy performance. Most ACOs analysed occupy buildings created for a different purpose (e.g., schools, lace factories, prisons) that have never had significant changes to adapt to the current activities or temporary solutions have been implemented. For this reason, the unsuitability of the building and costs related to heating or cooling it are often mentioned as the main drivers of reducing energy consumption and, consequently, environmental impacts, where cost reduction is the main driver.

Four out of the nine buildings where the organisations are located are listed buildings; others are mostly in conservation areas. Implementing more efficient heating systems often requires structural changes to the building, which would take time as it would require permission from official entities responsible for preserving English heritage and the City Council which often owns heritage buildings.

Most of the ACOs studied occupy buildings that belong to NCC. However, all organisations in this situation highlighted barriers to proposed changes, especially surrounding the lack of funding to implement them. The barriers are particularly significant in buildings occupied by micro-organisations associated with deteriorating buildings where rent is typically lower.

(...) you know, we do like a reduced rent. So, then we have a target to try, and you know, fundraise to get new heating and lighting – we did that. (...) I suppose the resistance, I think is perhaps the lack of confidence in a tenant fundraising for these things because they [NCC] are used to commercial settings, not charities – community groups. The second thing is also they don't have the funding themselves, so I think there's generally like quite a negative perception on how these things can actually happen or not – perhaps a less positive. (AC2)

(...) we would need to secure capital funding to do work. Our reserves and the state of our finances as a small arts charity aren't conducive to doing that without investment. We can't attract capital funding with the lease arrangement that we currently have on our building, and this is a challenge in various ways, but it's something that we're working to address. (AC3)

Participants recognise barriers in implementing changes to improve energy efficiency in their buildings because of their relationship with NCC. However, NCC is also associated with restrictions regarding funding allocated by the national government and other entities and how it is allocated.

5. Discussion

Multiple factors influence why ACOs implement organisational changes to measure environmental performance. Unsurprisingly the most significant is funding. ACE requires measuring specific environmental indicators using CO_{2e} emissions as a condition of funding. As

their main funding source, ACOs have started measuring their performance. Even though a first step, it is focused only on environmental aspects and operational activities, leaving other sustainability dimensions, strategies, and policies out of scope.

Measuring only environmental aspects can be a significant first step for any organisation, particularly ACOs, but it can lead to decision-making based on incomplete information. Several authors have discussed the breadth of assessing sustainability performance and sustainable development, including its implications (e.g., Mebratu, 1998; Neumayer, 2010; Ramos et al., 2020). Sustainability must reflect its multi-dimensional scope, including ecological, political, ethical, socio-economic, democratic, cultural and theological dimensions (Vogt and Weber, 2019). Achieving this will only be possible with the contribution of different disciplines, opposite to measuring the performance of ACOs in silos.

At the same time, the exclusive focus on operational activities leaves the impacts of ACOs' strategies and policies out. Some authors have suggested frameworks for measuring the impacts of organisational policies and strategies considering the multi-dimensional scope of sustainability, see, e.g., Ramos et al. (2021). Transformational changes will only be achieved by organisational changes in the set of beliefs, values and norms, mission/purpose, and metarules, as discussed by Narayanan and Adams (2017). These are only possible by adopting a multi-dimensional scope of sustainability that addresses strategies/policies and operational activities.

ACOs changes reflect adopting an agenda to measure environmental performance that might not focus on the most important environmental aspects as each reality is different. Funding requirements are based on continuing business as usual with merely cosmetic changes – only up to two participants referred to the need to rethink the role of ACOs and their links with the exploration of inequalities. Funding requirements to measure environmental performance might serve as a tool to create an identity in ACOs aligned with the dominant environmental agenda. Other authors have discussed how governance technologies shape values and create identities in ACOs (Abdullah et al., 2018).

The participants in the current study considered the most important environmental aspects being energy consumption and some aspects of shipping and production transport. Nevertheless, these are often the only elements measured. Besides shipping impacts, exhibitions or plays' sets need a significant number of resources in products that often have a short life cycle as they are not required for following events, or there is no storage capacity. These findings are consistent with that of Moskin and Oman (2012) on ACOs' focus on reducing energy costs. Not necessarily because they are the most significant impacts considering the multi-dimensional sustainability concept, but because they are measured in terms of financial and CO₂e emissions, representing a simplification of the sustainability concept. It is expected that energy use will continue to be prioritised as it is seen as strategically more important due to the global energy market, and the increase in energy prices will affect environmental performance improvements.

The agenda adopted by ACOs is influenced by ACE as the leading funder, but other funding opportunities available in England, the UK and the EU also play a role. Findings show that these are still focused on reducing costs, particularly energy consumption. One of the funding opportunities available to Nottingham-based ACOs is their engagement in ERDF-funded programmes such as the SiE. It supports SMEs in understanding their current status quo and identifying new perspectives on how to reduce CO₂e emissions. It also allows them to apply for funding to implement some of the necessary changes. As *per* funding requirements, changes are only funded if associated with significant carbon reductions. Thus, most changes continue to focus on reducing operational costs, such as energy, water, and material consumption. Often these 'carbon reductions' range from switching electricity to a green tariff to installing double-glazing windows in the building and improving insulation.

However, there are also barriers to implementing these changes in

building facilities. ACOs often do not own their premises, or even if they do, they are financially restricted in implementing physical changes that reduce energy consumption while preserving cultural heritage as often they occupy listed buildings. Structural changes to listed buildings require planning permissions that can take a significant amount of time, and it simply might not be possible to implement the best options due to restrictions on maintaining the heritage and cultural values or costs.

ACOs use funding opportunities as a strategy to access resources and implement some, even if only cosmetic changes. These findings corroborate previous research identifying financial resources, time, and staff capacity to influence what and how organisations change to measure environmental performance (Moskin and Oman, 2012). Funding dependence also echoes the adoption of profit-like tools to enhance their income and compete for funding, as discussed by Abdullah et al. (2018) and Weerawardena et al. (2010). Findings depict a tendency to transfer management approaches and strategies from the private sector to ACOs. Consequently, ACOs might change their focus from creating socio-cultural values to more commercially driven organisations aligned with a neoliberal agenda.

Still, there are differences within the ACOs analysed. On the one hand, smaller ACOs have more freedom, are more independent, and have more control over what and how they can change. On the other hand, larger organisations have higher risks to manage. They are more dependent on commercially driven changes, even if changes might not benefit their environmental performance, as decision-making is based on an incomplete portrayal of reality.

The research findings show that the NCC's goal to reach carbon neutrality and an active network of ACOs in the area might have influenced organisational changes in ACOs to go beyond CO₂e measurement. Findings show some ACOs aimed at benchmarking their results with others and sharing practices in networks, including a tentative closer relation with the NCC to be part of a bigger picture, possibly beyond environmental impacts but also addressing social impacts. Previous research (Bebbington et al., 2009) has discussed similar findings on how organisations engage in sustainability-assessment-related processes as often a way to 'fit in' but also as 'the right thing to do'. As a result, many participants are members of the Gallery Climate Coalition, and others use the Theatre Green Book as the main guidance on environmental practices. Therefore, a combination of top-down (from the ACE) and bottom-up (from ACOs) approaches interact to implement organisational changes. Networks and memberships are also a strategy to implement changes due to resource limitations.

The interviews and workshop participants often referred to a moral obligation to measure environmental performance. However, despite being identified in the literature as one of the factors influencing sustainability performance assessment (Lozano and von Haartman, 2018), it is unclear what this means for individuals and organisations. It is argued in the present research that other drivers might play a more significant role in the decision to measure environmental performance.

Only a minority of the participants recognise the importance of rethinking ACOs as the organisational model used today is not sustainable (beyond financial sustainability). Nevertheless, most ACOs engaged in the present work are willing to have an active role in advocacy and legacy for sustainability, including a multi-dimensional scope. Moskin and Oman (2012) discuss that ACOs have a robust advocacy infrastructure to support arts legislation and funding. Collaboration is crucial to identify opportunities with funders and partners to access knowledge. Consequently, ACOs act as NPO planning organisational changes within their boundaries and beyond by creating a social value in their activities and empowering society in transformational changes. Previous research (Ernst et al., 2016) has highlighted ACOs' role in preparing for system change, paramount to decreasing sustainability-related impacts.

The willingness to transform ACOs and impact society is in line with organisational culture and where the dominant institutional logics aligns with sustainability goals, particularly from the board of trustees and directors. The organisational culture associated with a multi-

dimensional scope of sustainability concept can drive transformational changes. Findings show a tendency to impact society across ACOs of different sizes. However, currently, it might be more significant in smaller organisations that are more engaged with the local community, which can still afford to be less commercially driven.

6. Conclusions

ACOs are uniquely positioned to affect change as both organisations and in their visible and influential roles in their communities and cities. Importantly this is a role that all the organisations profiled in the present study of Nottingham want to play. They *want* to make a difference for sustainability. This research has shown that desire is not enough though, and significant barriers remain. Firstly, five interrelated factors are presented that influence organisational change: (i) the role of funding bodies, (ii) local policies and networks, (iii) organisational culture and leadership, (iv) lack of resources and (v) building proprietary-tenant relationships. This research shows the complexity of these factors, how they interact, and the implications for a more holistic sustainability performance assessment.

Secondly, this research contributes to understanding the ACOs responses to measuring environmental performance and the challenges they face as they seek to move beyond measuring to implementation. The sector's heterogeneity is essential as significant variations are found within the organisations participating in this study. Thirdly, this research has implications in policymaking, decision-making and management for how funding is allocated and understood both in terms of moving beyond merely requiring the measurement of carbon equivalent emissions of activities and being clear that sustainability is more than just carbon emissions.

Findings from the present research need to be analysed considering the contextual factors, such as social, political and organisational realities studied. This research is firmly located within a specific place, and this is both a strength and a potential limitation of our findings. Despite possible similarities with other ACOs in England, Nottingham-based ACOs enjoy a specific context in sharing experiences and having access to funding to implement changes that might not be reflected in other English cities. The wider commitment to the low carbon agenda by the NCC has also raised the profile of this agenda amongst the organisations. Also, data sources depend on what specific representatives state and how data was collected, which might influence the findings. Future developments can support further data gathering through a longitudinal study from multiple sources to capture organisational changes, namely when funding requirements change. Other studies could collect data from other cities and regions.

Future research should address the thin lines that allocate accountability and responsibility for the environmental impacts of ACOs. It is unclear where responsibility for the impact lies and which individuals or groups are responsible for creating externalities. And, of course, this applies to any organisation and their externalities and stakeholders, which ultimately includes us. ACOs, perhaps more than others, can point to a better and more sustainable world; therefore, these barriers must be understood and overcome.

Credit author statement

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Declaration of competing interest

The authors declare that they have no known competing financial

interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

The data that has been used is confidential.

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Appendix A. Supplementary data

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