

Perspective

Increasing the Impact of Sustainability Research—A New Methodology

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ABSTRACT

Making progress with implementing sustainability is vital to securing a safe future. It is no exaggeration to state that failure to address our current deeply unsustainable way-of-life is a threat to the continuation of civilisation. It is evident that sustainability is vital, but how to deliver sustainable outcomes is far from clear. The sustainability research agenda could not be more important. In this paper it is argued that the significance of fully understanding sustainability, and the urgency of implementing such knowledge, require developing new research methodology—or adjusting existing methodology—in order to match the challenge. The research community are encouraged to embrace an active role which is above and beyond neutral observer, to become actively engaged as a catalyst for change. Instead of considering possible impacts after the research is complete, desired sustainable outcomes should be incorporated from the outset, and drive the research process.

KEYWORDS: sustainability; sustainability research; research methods; action research case study

INTRODUCTION

Sustainability has evolved from an important but niche area for research, to become a vital foundation for formulating policy. Policy makers need guidance and expert advice. This is where the research community can have an important role, provided methodology can be developed with the potential to have real impact on policy decisions. The impact can be relevant to a range of stakeholders including business and civil society; here the particular focus is on contributing to setting policy. The challenge is to strike a balance between real-world relevance and academic rigour.

Sustainability means many things to different people and covers a multitude of aspects of society and the economy, both of which are constrained by the capacity of the ecosystem. Whilst the world ignores environmental limits, and increases exploitation beyond the capacity of the planet, it is not surprising that the consequence is environmental degradation [1]. The inherently unsustainable nature of the current global economy should be deeply troubling, but efforts to work out how to reform

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it come up against the engrained mantra of pursuing progress through economic growth. There is reluctance to support sustainability measures that might conflict with such economic objectives. It is apparent that sustainability is vital to a safe future for humanity; what is less obvious is how to make the transition from the current unsustainable economy to a future sustainable economy [2,3]. Failure to safely navigate the transition over the next few decades could be an existential threat to civilisation [4].

Scare mongering is not an effective way to mobilise people to take action, as it tends to frighten and encourage denial. Still, there is a dangerous truth which must be exposed, understood, and faced. For researchers, understanding the possible consequences of failure is necessary background context. Planet Earth is not at risk; the ecosystem has an incredible ability to adapt to whatever we throw at it. I do not believe that survival of the human species is at risk; some people will survive in some way or other no matter how dire the circumstances. However, it has become abundantly clear that failure to implement sustainability is a clear and present danger to civilisation. The future we are charging towards is one in which we fight over diminishing resources, some places become uninhabitable, and others are overwhelmed by climate refugees. Failure to implement sustainability could lead to scratching out a meagre existence on a planet no longer suited to our needs. This is not a danger for some time in the long future; this is our destiny by the middle of this century [5,6].

THE GROWING IMPORTANCE OF SUSTAINABILITY RESEARCH

The imperative to discover, and navigate, a transition to a sustainable future means that research into sustainability has growing importance. Academic research into any number of subjects is valuable, of course, in order to increase the store of human knowledge. Undertaking research into sustainability to satisfy curiosity, generate new insights, and expand what we know about the dilemmas we face is intrinsically sensible and useful. I argue in this paper that, at this crucial juncture in history, the urgency of finding solutions provides the impetus to incorporate real-world impact inside the research process. A conventional approach is to behave as an independent and neutral observer according to strict academic methods, which are robust and rigorous. It is only after the research is complete that consideration is given to how the findings might have impact. The approach advocated here is to make the research, from the outset, directly relevant to policy formulation and the identification of actions which should be taken.

Interesting parallels can be drawn between the weakness of the current approach to sustainability and the limitations of conventional research methodology. When considering sustainability, the starting point is often a plan for some sort of development, policy, or project, supported by a costed business case. This is then subjected to social and environmental impact assessments. This sequencing means that the economic case is

always leading, with environmental and social consequences requiring subsequent adjustments. This is regarded as normal procedure but is weak in terms of facilitating transformation. The normal procedure for academic research usually starts with a research question or perhaps a hypothesis to test. The research is carried out by strictly neutral observation according to rigorous procedures. This sequencing means that maintaining the integrity of the research process is always leading, with leveraging the findings into real-world outcomes considered after the research is complete, thus limiting the potential impact. There are examples, of course, of conventional research leading to high policy impact as cited above [1]. However, simply combining sustainability analysis and general research methods as “sustainability research” is likely to have limited impact. It is proposed that a research process designed from the outset to deliver impact is more likely to identify the sort of radical transformations which sustainability requires.

SUSTAINABILITY IS SPECIAL

The special nature of sustainability, and the urgency to make progress, is the reason to consider changes to the research process. What is needed is an incisive, uncompromising analysis to expose the dilemma(s) which usually sit(s) at its core. Much current sustainability analysis is superficial, seeking to satisfy all stakeholders, finding compromises and tending to recommend marginal change. From my research into sustainability over the last two decades, I have discovered that when you get more deeply involved, stripping away the perspectives of vested interests, pushing back against government inertia, and looking beyond the complaints of environmentalists, simple truths can be exposed. This is the case with aviation policy (see below).

It has taken a number of research efforts which have become bogged down by atrophied groupthink for me to come to the view that effective analysis needs different sequencing. Analysis in which social and environmental factors have priority is the better starting point. Following this, consideration is given to crafting economic policy which can deliver the sustainable solution. Rather than the business case being built upfront, it is crafted later to deliver the required sustainability outcome. To some policy makers, and many economists, this is heresy. Their resistance arises because the resulting solution may not deliver the best economic result, though it is much more likely to facilitate the greater prize of a sustainable outcome. This is a fundamentally different process to starting with a business case and then subjecting it to social and environmental analysis. In much current sustainability analysis, the status quo is used as the starting point and adjustments considered to make it more sustainable. An alternative approach which is gaining traction [7], and the approach I advocate, is to focus on identifying a sustainable destination and how to navigate a way to reach it.

For research into sustainability, we can draw on the methods and processes of Action Research (discussed in the section below on evolving research methodologies). I propose that the starting point is the sustainability dilemma or challenge which needs to be addressed. The research method should then focus on identifying solutions, with the research process incorporating activities which engender buy-in to potential solutions. The research process should be designed around the high-level objective directly related to the desired impact. This might not lead to the most rigorous of research processes but it is more likely to have real impact. This is a fundamentally different way to approach research than using a research question or hypothesis as the foundation. In conventional research, the researcher is an expert independent observer; in the approach advocated here, the researcher is a participant engaged in a highly relevant impact-orientated investigation. The question arises whether the activity is research or consultancy.

RESEARCH OR CONSULTANCY

Initiating discussion about research with impact leads to a debate about the relationship between research and consultancy. Typically, research is carried out according to research questions and hypotheses; meanwhile consultancy is used to solve the challenge or problem for which the consultant has been contracted. It is the nature of consultancy that the client might not want time diverted to research which is not directly focussed on solving the problem [8]. Also, it is hard to avoid the reality that an employed consultant is incentivised to please the client in order to get the invoice signed. It is a brave (or foolhardy) consultant who exposes hard truths which the client would rather not know and does not want brought to their attention. Having worked in academia, business and the public sector, I appreciate the range of perspectives. In past roles, some incidents are memorable and instructional.

The first incident I want to share, was whilst wearing my academic hat, carrying out research into sustainability in aviation. One of my research subjects was a senior executive in one of the major airlines. Over a period of time we had been discussing how sustainability is likely to shape the aviation industry. We got on well and shared the logic of our analysis. We agreed that there will be a highly disruptive transition when society finally demands change, and the politicians respond with updating the regulations for international aviation. We agreed that it was likely to be a commercial bloodbath with many airlines going bankrupt. This is where it became difficult, because this person did not want to be associated with such “subversive” ideas. Even under the umbrella of research confidentiality, this person felt they had to withdraw in case the company board learned of their association with such findings. The lesson from this incident is that academic researchers have to hold to the logic of their analysis even (or perhaps especially) when it delivers unwelcome insights.

Care might be needed in the style of presentation, but the analysis should not be diluted.

Another instructional episode played out when I worked in the public sector. My organisation had a contract with one of the major consultancies. I was allocated a block of consultant time for a particular task. When I met the consultant, I explained the issue in a neutral manner so as not to give them any indication of my opinion. I wanted an in-depth analysis and identification of suitable recommendations which arise out of the analysis. Two weeks later I was presented with a draft report. It fitted perfectly with the status quo of how the organisation thinks and operates. It would have had an easy passage through approval and then filed away alongside many other consultants' reports. I sat down with the consultant and asked them to justify the analysis; they struggled to do so. They seemed surprised that I was asking the question. It became clear that they could see that an unconstrained analysis would be likely to come up with conclusions which would conflict with how the organisation operates, and therefore they assumed would not be welcome. I emphasised that I wanted a *real* analysis. To the consultant's credit they then went away and expended a lot more effort to do a more incisive analysis. The result was indeed potentially controversial but it was accurate, logical and the recommendations, although challenging the status quo, were sensible and appropriate to the analysis. They seemed to enjoy being given the freedom to think without the constraint of what the client wants to hear back. I took the report and presented it within my organisation; and it did indeed make waves, but it also achieved (in a small way) some progress. This incident reinforces the lesson that effective research and consultancy have to be prepared to present a true analysis without fear of an initial unfavourable reception. This is particularly so for the thorny issue of sustainability.

When consultancy is played as a game focused on pleasing the customer, in my view this is weak consultancy. When research is focused only on analysis and observation without the intention to have impact, in my view this is weak research. Of course, there is a wealth of research which is designed to observe and analyse, and it may be only later that the potential impact emerges, but here I argue for the value of pursuing action research where the intention is to have impact inserted upfront. There is huge scope for strong consultancy and strong research, if the two perspectives can be amalgamated. This would fail if the amalgamation attracted the worst attributes of both perspectives. A lack of rigorous procedure combined with the objective of pleasing the client would be completely useless. However, harnessing the best of both has huge potential. Rigorous research procedures employed with the intention to navigate a way forward which will have impact, without fear of telling the truth, could have enormous impact.

AN EXAMPLE—SUSTAINABILITY IN AVIATION

My exploration into sustainability research, with the intention of having impact, took me into the realms of the methodology of Action Research. For choice of sector, I chose to focus on aviation because it is the most conflicted of all sustainability challenges [9,10]. There are environmentalists who vehemently oppose flying, don't fly themselves, and urge everyone to follow their example. Meanwhile governments welcome the way aviation facilitates international trade and underpins the global economy. Passengers like to fly, and like flying to be cheap. The politicians I interviewed explained that amongst the electorate there is not widespread concern about the sustainability of aviation, so there is no demand to expend political bandwidth on seeking a solution. The debate is highly polarised between the environmentalists in opposition and just about everybody else in support of the status quo. So far, sustainability in aviation has been regarded as simply too difficult and therefore exempt from measures to force a transition. I regard aviation as a barometer of when the world is willing to start taking effective action to implement sustainability. In my judgment, this means that aviation is the ideal sector to develop research methodology which could have real impact. The detail of my methodology and findings is published elsewhere [11,12]. It is the general lesson of the research approach I want to highlight here in this paper.

A conventional research approach to sustainability in aviation would start from the current model and seek to make it more sustainable. This evidently makes sense; until you realise that the analysis becomes trapped in a closed loop with long-term sustainability forever out of reach. Such an approach leads to marginal improvements such as increasing the fuel efficiency of jet aircraft and improvements to air traffic control to support more direct flights. These would be genuine improvements but are adjustments to the current model and do not advance a radical transformation to a different economic model. This search for marginal improvements can also lead the industry to lean on disingenuous proposals, ranging from using bio-fuel (arguing that this is carbon neutral) to improving emissions associated with the ground operations (arguing that this will reduce emissions of the overall journey from home to the final destination). For the analysis to be really effective, it needs to be much more incisive to unpack the sustainability challenge and expose the true dilemmas which have to be addressed if there is to be progress towards long-term sustainability. This means, for aviation, to review whether the fast jet should continue to be the main workhorse, and consider whether the underlying economic model should change. My general observation of the conventional research approach to sustainability indicates that factors most relevant to a long-term sustainable solution are often ignored, filtered out, or in some case never even identified.

The conclusion of my research into sustainability in aviation was generally positive. We can be optimistic that there is a solution to the dilemma between the benefits of aviation and its environmental impact. It revolves around accepting that, although time-poor people value the speed of air travel (and are willing to pay for it), affordable flying need not to be fast, and acknowledging that implementation requires changing the underlying economic model. That such a potential solution exists is not widely known; and until people can visualise that sustainable aviation will be a leap forward, rather than simply restrict flying, there will be no public support for disruption to the current model.

Whether this action research methodology, employed to examine sustainability in aviation, has been successful can be disputed. The method identified a feasible transition to a model of sustainable aviation which brings emissions under control, but the proposed way forward has not been adopted yet. The identified solution hangs like a Sword of Damocles over the current commercial players in the aviation industry. The reconfiguration of aviation and associated disruption will play out when the general public finally calls for politicians to act. The timing is highly uncertain because sustainability is only just starting to have real traction within society. In my view, having the outline of a feasible solution lined up ready to be adopted is an example of research with impact—even if the impact is on-hold until public attitudes and political motivation coincide to allow a highly disruptive transition to begin.

THE DELIVERY OF IMPACT

The rationale of action research is to have direct impact, with an expectation of an immediate result as a consequence of the research [13]. In the selected case focused on aviation policy, the research did not have such immediate impact. This suggests that the impact is not only determined by the type of research, but on how receptive society is to change; the objectives and capabilities of policy makers; and the strength of resistance from entities with a vested interest in maintaining the status quo. Adopting the methodology of action research is not sufficient to ensure impact, but the argument made here is that it frames the research in a way which is more likely to cut through assumptions and push past stakeholder resistance to get to the heart of the matter. Three observations are offered as lessons from applying action research to aviation policy.

First, researchers into sustainability should not be put off from focusing on priority areas that have been labelled with preconceived notions that it might be “too difficult”. Where there is a strong stalemate, identifying a way to break it can be regarded as having impact on the policy process, even though for now the stalemate remains. Second, where there are powerful stakeholders opposing the changes required to achieve sustainability, these should not be allowed to dictate the direction of the research nor constrain its findings. Instead of factoring in such resistance, an action research case study allows an incisive approach which could

identify a possible way forward despite such resistance. Third, it is the nature of sustainability that there are many transitions with different spatial extent and over a range of timescales. When the circumstances are not yet right to carry out action research with consequential impact, it is still valuable to work with action research case study methodology in order to work out the parameters of the transition and identify elements of the action required to initiate it.

It is argued in this paper that the action research case study methodology, with its overarching objective of delivering impact, can give the research an incisive edge. This facilitates cutting through notions of “too difficult” and pushes back against obstructive stakeholders to allow the proactive crafting of long-term sustainable solutions. This compares with a less proactive research approach, which might gravitate towards anodyne findings based on short-term convenient fixes acceptable to the majority of stakeholders. Of course, the final outcome will depend on the willingness of individuals and entities involved to take forward the action proposed.

EVOLVING RESEARCH METHODOLOGIES

Where the research objective goes beyond observation and analysis to become a catalyst for change, the research methodology should be designed to suit this wider objective [14]. Research with purpose is not a new concept and is a part of a number of research methodologies including systems, operational and action research [15]. Action research seemed like an appropriate choice having been used to mobilise grass roots action to influence climate policy [16]. It was hoped that developing a variant of action research had potential to influence policy for sustainability. The attraction of action research is summed up by the editor of the journal *Action Research* as, “Action Research is not a method, but an orientation to inquiry” [17].

To implement an action-orientation approach to investigate sustainability, an established case study methodology was employed using the procedures defined by Robert Yin (2014) [18]. Initially, this structured case study methodology appeared to contradict the notion of a flexible action-orientated approach. It became clear through the conduct of the research that the clear structure worked well in support of the action orientated inquiry and went some way towards addressing the challenge of ensuring rigor without sacrificing relevance [19].

The details of the particular research from which lessons outlined in this paper have been drawn were published in the journal of *Action Research* as the “Action Research Case Study” [11]. Phase 1 was a comprehensive analysis of aviation, and international aviation policy, including previous research focussed on aviation and sustainability. The objective was to identify the key parameters of how the industry operates, including the main issues and potential fault lines in policy, as well as start to outline possible ways forward. Phase 2 was about seeking ideas from a

related sector facing similar challenges. This proved useful in crafting the protocol for the Phase 3 research. Phase 3 was the main empirical research consisting of 28 interviews across six stakeholder groups applying case study methodology [18]. The data was analysed to establish the rationale for an appropriate sustainability transition for aviation and identify action which would be required.

Action research is one methodology which can be employed, but there are multiple research methodologies. I do not pretend to have found the perfect methodology in the version of Action Research which I developed, but I believe the general concept of allowing research which actively engages with the issues is sound. There may be other research methods which can be adjusted to ensure that sustainability research has impact. I urge other researchers to join the search for ways to allow desirable sustainability outcomes to set the context of research, and to be a driver of the research process. The lesson I want other researchers to take on board is not to be afraid to engage with influencing change. This need not lead to lower academic standards, but if it does mean accepting less academic rigour, that might be a price worth paying to ensure that research has impact. I hope others will follow my lead and develop new approaches to research which allow more than analysis and observation so that the research itself becomes a catalyst for change.

CONCLUSIONS

Sustainability research has importance greater than a thirst for knowledge; progressing sustainability is vital to a safe and secure future. The premise of this paper is that conventional research methods are not up to the task. Conventional research processes, with strong academic roots encouraging neutral observer status, tends towards superficial analysis and proposals for marginal improvement. It is proposed that researchers engage with the issues and attempt to be a catalyst for change. Lessons have been learned from applying such an approach to aviation. First, no part of the sustainability agenda should be ignored as “too difficult”. Second, powerful stakeholders should not be allowed to hold back research which might produce inconvenient findings. Third, research which is capable of identifying required action is valuable even if the circumstances are not yet ripe for implementation. This sector was chosen because it is widely acknowledged to be the most difficult sustainability challenge. Any method which could work to progress sustainability in aviation is likely to be widely applicable to other sustainability challenges. A version of Action Research was developed which did indeed identify a feasible transition to long-term sustainable aviation. The overall conclusion of this paper is that adapting research methods to support the researcher getting deeply involved has the potential to increase the impact of sustainability research. The recommendation is for researchers working on sustainability to focus from the outset on desirable sustainable outcomes, and let that set the

direction of the research. The aim of everyone involved in sustainability research should be to facilitate the transition towards a sustainable future. The future of civilisation could depend on it.

CONFLICTS OF INTEREST

The author declares that there is no conflict of interest.

REFERENCES

1. Rockström J, Steffen W, Noone K, Persson A, Stuart III Chapin F, Lambin E. Planetary Boundaries: Exploring the Safe Operating Space for Humanity. *Ecol Soc.* 2009;14(2):31.
2. McManners PJ. Reframing economic policy towards sustainability. *Int J Green Econ.* 2014;8(3/4):288-305.
3. Scoones I, Stirling A, Abrol D, Atela J, Charli-Joseph L, Eakin H, et al. Transformations to Sustainability, STEPS Working Paper 104. Sussex (UK): STEPS Centre, Institute of Development Studies and the Science Policy Research Unit (SPRU), University of Sussex; 2018.
4. McManners PJ. *Victim of Success: Civilisation at Risk.* Reading (UK): Susta Press; 2009.
5. Meadows DH, Meadows DL, Randers J. *The Limits to Growth.* New York (US): Universe Books; 1972.
6. McManners PJ. *Green Outcomes in the Real World: Global Forces, Local Circumstances and Sustainable Solutions.* Gower (UK): CRC Press; 2010.
7. Sala S, Farioli F, Zamagni A. Progress in sustainability science: lessons learnt from current methodologies for sustainability assessment: Part 1. *Int J Life Cycle Assess.* 2013;18(9):1653-72.
8. Ormerod RJ. Combining management consultancy and research. *Omega.* 1996;24(1):1-12.
9. Nijkamp P. Sustainable transport: new research and policy challenge for the next millennium. *Eur Rev.* 1999;7:551-63. doi: 10.1017/S1062798700004476
10. Gössling S, Upham P, editors. *Climate Change and Aviation: Issues, Challenges and Solutions.* London (UK): Earthscan; 2009.
11. McManners PJ. The action research case study approach: A methodology for complex challenges such as sustainability in aviation. *Action Res.* 2015;14(2):210-16.
12. McManners PJ. *Reframing Economic Policy towards Sustainability.* London (UK): Routledge; 2017.
13. Gustavsen B. Action research, practical challenges and the formation of theory. *Action Res.* 2008;6(4):421-37.
14. Poteete AR, Janssen MA, Ostrom E. *Working Together: Collective Action, the Commons, and Multiple Methods in Practice.* Princeton (US): Princeton University Press; 2010.
15. Midgley G, Reynolds M. Systems/operational research and sustainable development: Towards a new agenda. *Sustain Dev.* 2004;12(1):56-64.

16. Hall NL, Taplin R, Goldstein W. Empowerment of individuals and realization of community agency: Applying action research to climate change responses in Australia. *Action Res.* 2010;8(1):71-91.
17. Bradbury H. Action Research: The journal's purpose, vision and mission. *Action Res.* 2013;11(1):3-7.
18. Yin R. *Case Study Research: Design and Methods*. 5th ed. London (UK): SAGE; 2014.
19. Argyris C, Schön DA. Participatory Action Research and Action Science Compared: A Commentary. *Am Behav Sci.* 1989;32(5):612-23. Republished in: Cooke B, Cox JW, editors. *Fundamentals of Action Research*. Volume 2. London (UK): SAGE Publications; 2005. p. 137-47.

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