Chapter 22

Tracking, evaluating and evidencing impact

How do you know if your research actually made a difference? If you think you made a difference, can you prove it?
In this penultimate chapter, I want to consider how you can track and evidence the impacts that the rest of this book is designed to help you generate. First, I want to tackle the challenge of motivating yourself to keep track of your impacts as they arise. This can make your life much easier when you are asked by research funders and others to report on the impact of your work, but the time involved puts most researchers off. I have developed an approach that takes me less than a second to log impacts in a place where I can find them later. In the next section I explain my approach, but I want to encourage you to find your own approach.

Tracking research impacts efficiently as you go

Many universities now have online systems on which they ask researchers to log impacts. Although these systems are powerful, and increasingly essential for managing the assessment of impact across large institutions, the majority of academics do not regularly engage with them.

As a researcher myself, I understand the challenge. I told my research funders about my impacts last week via their annual request to input data to their online system. The week before, one of my funders contacted me to write an article about my impact for their magazine. Every couple of months I have an informal call with another of my funders and tell them about the impacts of the project they are funding. Every quarter I have to write a report on my research impact for the programme that funds my Chair position. I'm drafting an impact case study for the next Research Excellence Framework. On top of this, my university also expects me to log my impacts in its research management system (it is on my to-do list).

I suspect that I am victim of my own success, as few of my colleagues have to report impact as much as I do. However, most researchers I know agree that the administrative burden of

reporting impact is rapidly ballooning.

This is a problem for two reasons. First, evidencing impact is important for universities' reputations and bottom lines. Based on an analysis of the UK's Research Excellence Framework in 2014 (that I published in the Fast Track Impact magazine with Simon Kerridge from the University of Kent), a top-scoring impact case study was worth £324,000 on average over seven years, and it will be worth more in the next assessment in 2021. Second, few researchers keep records of their impacts as they occur, and so tend to rely on memory when they report impacts (usually in a rush, just before the deadline). This means reporting is often incomplete and lacking detail, leading to missed opportunities to deepen or properly evidence impact.

For me, this is a problem of hearts and minds. Most researchers' hearts aren't in impact reporting. They would prefer to be generating impact rather than entering it into an online system that they've forgotten how to access or navigate. Even if your heart is in it (as mine is), the repeated requests to input different impacts to different people in different ways are likely to become increasingly frustrating.

What we need is a culture of tracking impacts as we go, and the only way we can create this culture is by going for both hearts and minds. For me, the easiest way to get to the heart of impact tracking is to link it to your impact goals. I use my Fast Track Impact Tracking Template (Table 3) to get researchers to visualise their impact goals (working back if necessary from the people who are interested in their work and why they are likely to be interested). It can be motivational to visualise the impacts your research might have, imagining yourself years from now, looking at what has changed because of your work.

However, I tell my colleagues that there is no point in visualising their future impact if they have no way of telling whether or not they are moving towards or away from it. By looking around themselves, in their mind's eye, they can start identifying the specific things that have changed, that tell them they have reached the impact they set out to achieve. Now, rather than just waiting for evidence to appear, they are looking for specific things, and measuring them on a regular basis to check if their impacts are on track. If they are off track, they are empowered to change their pathway to

impact in ways that are likely to get them back on course. Impact tracking now has a purpose. It isn't just filling in forms to keep some nameless bean counter happy. It is actually increasing the likelihood that they achieve the impacts they want to see. From this place of inspiration and empowerment, I'm motivated to track my impacts. We've got to the heart of the matter.

The mind is more of a challenge. What we need is a way of tracking impacts that is as effortless and painless as possible. Different people will look for different things. For me, I want to be able to track my impacts on the go, inputting things to my smart phone, whether or not I've got an internet connection, without having to learn a new web interface or having to remember a new username and password. Ideally, I want to be able to record things as I stumble across them, online or in my inbox, without leaving my internet browser or email programme. Each researcher needs to create their own system that will meet their needs, so they can effortlessly keep track of impacts on a day-to-day basis. Not everything they record will necessarily be worth reporting, but when asked to report impacts, they will have a wealth of material to sift through, and be much more likely to provide detailed and comprehensive information. This is not about replacing institutional repositories. It is about finding ways to collate material easily as you go, so it is easier to input to your institutional repository (or whatever form you are asked to report impact in) when that time comes round.

So what are the options? A lot of my colleagues just use their email, putting things related to impact in a folder, filing leads, and emailing notes to themselves to store for safe-keeping. One person I met prints out anything related to his impact and puts it in a ring binder. Others I know are exploring OneDrive. There is no single right answer. We encourage researchers to come up with their own solution so that impact reporting becomes quicker and it is easier to provide high-quality information.

I have developed a system for researchers to keep track of their impacts on a day-to-day basis, prior to submitting them to funders and institutional repositories, using the productivity app, Evernote. Using this system, I collect evidence on the go in three simple steps:

1. Sign up for a paid Evernote account (£30 a year at the time of writing) — only one member needs to do this, the rest of your team can use the free version of the app or website, or just email impacts into your Evernote account.
2. Start a new notebook, share the notebook with your team if they want to record impacts directly into the notebook in their own Evernote app (and anyone else who would like to have access to your impacts e.g. an administrator who is helping you input evidence to an institutional repository).
3. Give your team your unique Evernote email address to send in notes, photos, recordings, documents, clipped web pages and other evidence of impact to be collated in your shared notebook.

Now I have relevant material quickly to hand when I need to report it to funders or my university. My team members don't need to remember a new log-in or learn any new skills; if they can send an email, they can keep track of their impacts (no excuses!). They don't have to download the app, visit a website or even be online unless they want to. For my most recent project, I've made a link on the project website that brings up an email addressed to my Evernote address automatically with a subject line that will deliver their email directly to the notebook for that project (I'm using Evernote to track impact for multiple projects). Evernote is GDPR compliant but as a US-based cloud computing service I am not covered by EU data protection legislation if there is a data breach, so I make sure I don't store personal or confidential data about research participants or anything I have contractually agreed to keep confidential.

We need simple, quick and easy ways of tracking impacts on a day- to-day basis that fit with our busy, often mobile lives (the 'mind' part). We also need to appeal to the heart of the impact agenda — creating benefits for others — and consider how evidencing impact on a regular basis can actually lead to bigger and better impacts. Impact tracking needs to come from the heart and the mind if it is to happen regularly and effectively.

If you want to find out more about my impact tracking system for Evernote, visit www.fasttrackimpact.com/evernote.

If you start collecting evidence of impact as you go, evaluating impact will become a lot easier. In the next section, I want to explain how to design an impact evaluation.

What is research impact evaluation?

Research impact evaluation refers to the process of analysing, monitoring and managing the intended and unintended consequences, both positive and negative, of research. Evaluation typically seeks to identify causal links between:

1. The generation of new knowledge through research (or its co-generation with publics or stakeholders);
2. Knowledge exchange activities (via passive dissemination or public/stakeholder engagement); and
3. Impacts, including indirect and unforeseen benefits as well as negative outcomes.

Evaluation may provide direct, sole attribution of impact to research, but more often than not, attribution is indirect and/or partial. As a result, the goal of most evaluations of research impact is to assess the extent to which research made a significant contribution towards an impact.

In this chapter, I distinguish between evaluating and evidencing impact, although the two activities typically go hand-in-hand. Evaluation is the process of assessing the significance and reach of impacts and the extent to which they are caused by research. Evaluation findings that are independent, robust and available for the public to scrutinise can be used as evidence to demonstrate the benefits to society arising from research.

Why evaluate or evidence impact?

Many researchers are content to engage with the public and stakeholders without asking whether the time they spent actually made a difference. They engage with publics and stakeholders because it is the right thing to do, not to get credit for their work, and so there is no need to evaluate or evidence whether or not they helped. But what if it turns out that they made no impact at all and were wasting their time? What if, in fact, they made things worse? If they knew their efforts were failing, they might be able to learn from their mistakes and do better work in future. They might even be able to help fix some of the problems they inadvertently exacerbated.

Whether or not we want or need to report the impact of our research, evaluating our impact can help us engage better with publics and stakeholders, and generate impacts that have greater meaning and value. Evaluation enables us to better understand the interests and priorities of different publics and stakeholders, so we can better meet their needs and provide them with opportunities that they find meaningful, enriching and valuable.

Knowing what works (and what doesn't) can help us choose methods and activities that will engage people more effectively with our research, wasting less time and generating more impacts from the time we do invest. Evaluating our approach to impact can help us anticipate challenges and avoid using methods that are unlikely to work or that might lead to unintended negative consequences. When things don't go according to plan, our evaluation can give us ideas about how to get things back on track or do things better the next time. Whether to funders, the media or our friends and family, evaluating our impact can enable us to communicate the value of research to wider audiences.

What should I evaluate?

Research impacts are typically evaluated against two key criteria: significance and reach. According to the Higher Education Funding Council for England:

- **Significance** of your impact is the extent to which the research has "enriched, influenced, informed or changed policies, practices, products, opportunities or perceptions of individuals, communities or organisations"; and
- **Reach** is "the extent and diversity of the communities, environments, individuals, organisations or any other beneficiaries that may have been impacted by the research".

Note that reach is not just considered in terms of numbers of people reached or geographical reach, but can be considered in more nuanced forms, such as the diversity of organisations benefiting.

Significance and reach need to be framed and argued for, as well as evidenced. What might appear to be an insignificant impact with limited reach may be argued to be highly significant and far-reaching in a given context. If you are able to argue that there is a sub-national need that is unique to and clearly evidenced at that

scale, and you fully addressed that need at the scale of the relevant region, you may be able to argue that your impact was significant and far-reaching. On the other hand, if you were to frame the same impact as an international problem affecting every country in the world, but you only solved it for that one region, you may well undermine your argument for a significant and far-reaching impact. I will revisit considerations around narrative and framing later in the chapter in relation to communicating evaluation findings as case studies.

In addition to assessing the significance and reach of your impact, for an evaluation to provide formative feedback to enhance your practice, it is also useful to evaluate the process you follow to reach impacts:

- **Evaluate the design of your pathway to impact:** it is often possible to identify a flawed pathway to impact in advance, if you stop and reflect on the design of your pathway. I once designed a flawed pathway to impact, which included a smartphone app, but with no marketing budget (the app sank without trace among the thousands of apps uploaded to app stores every day). With hindsight, the flaw in my plan is obvious, and I can't help but wonder if I might have spotted this had I taken this step, and evaluated my design more rigorously at the outset. One way to do this is to consider the extent to which: i) the design follows known good practice principles; ii) it is adapted to your particular context; and iii) it is underpinned by sound ethics. For example, a well-designed public engagement process should typically:
  - Identify publics and stakeholders systematically
  - Understand and manage the expectations of these groups o Deliver tangible benefits that will be valued by each group in ways that are sensitive to their social and cultural context
  - Identify risks and assumptions and be prepared to adapt to changing circumstances
  - Engage experienced personnel who can manage events, facilitate workshops and organise engagement effectively
- **Evaluate the delivery of activities** along your pathway to impact, and their immediate outcomes. Refer back to the activity indicators you identified in your impact planning template (Step 2, Chapter 10) and choose appropriate methods to track each indicator. This should quickly tell you if you are getting the outcomes you expect, and if not, you will have time to correct your course, and stay on track for impact.
- **Evaluate the impacts of your research:** evaluations that focus

only on the delivery of activities along a pathway to impact (e.g. communication reach) and the immediate outputs of engagement (e.g. evaluation of an event) often fail to articulate the broader, deeper and longer-term benefits of research. Typically, this task focuses on evaluating the significance and reach of the impact.

How to do an impact evaluation

To conduct an evaluation of your impact, you need to:

1. Know what impacts you are looking for
2. Select an evaluation design to establish the significance of the impact
3. Determine the reach of the impact
4. Communicate the findings of your evaluation as evidence of impact

The order of these steps is important. Attempts to communicate the impact of research that are not underpinned by rigorous evaluation may unravel under closer scrutiny. An evaluation may be designed to assess whether a project met its original impact goals and miss much more significant impacts that arose opportunistically during the research process. An impact that is shown to have global reach that isn't significantly valued by anyone could be argued to not really be an impact. Instead, be clear on what it is you are looking for, and design your evaluation to determine whether or not there were significant impacts that you can clearly establish were linked to the research. Only at that stage is there any point in investigating the reach and communicating your findings as impact.

1. Know what impacts you are looking for

These may have been identified at the start of the research, or may have arisen more opportunistically during the research process. Either way, clearly articulate the impacts you want to evaluate. You may wish to frame this as a testable goal (e.g. the research made a significant contribution towards impact), question (e.g. to what extent did the research contribute towards impact?) or null hypothesis (e.g. that the research made no discernible contribution to impact). To ensure you have holistically identified all relevant impacts, you may want to revisit the list of different impact types in Chapter 2 to consider if there are any missing types of impact you might want to evaluate.

2. Select an evaluation design to establish the significance of the impact

The next step is to determine whether or not (or to what extent) the research contributed towards significant effects or impacts. It is not enough to demonstrate that impacts occurred. It is essential to be able to prove beyond reasonable doubt that the impacts came about as a result of the research. To do this, evaluations typically seek to identify causal links between the generation of new knowledge through research (or its co-generation with publics or stakeholders), knowledge exchange activities (via passive dissemination or public/stakeholder engagement) and impacts, including indirect and unforeseen benefits as well as negative outcomes.

To do this, guidance from the realms of evidence-based policy and research-informed international development typically follows a hierarchy of methods, based implicitly on their accuracy and lack of bias. Randomised controlled trials sit at the top of this hierarchy, followed by quasi-experiments, mixed methods and qualitative methods. Implicit in this hierarchy is the idea that quantitative measures are superior to qualitative approaches, and the task of evaluation is to identify and evidence the sole cause of any given effect, where the cause is an intervention based on research and the effect is the impact.

However, it is increasingly clear that the relationship between research and impact is far more indirect, non-linear and complex than these evaluation frameworks allow. Demonstrating cause and effect can be tricky in the real world. There are always many other factors that may have been responsible for the impacts you would like to be able to claim as your own. Many of the benefits that accrue from research take years to materialise. Impacts may become evident long after project funding has ended, making it difficult to find the staff time or funding to evaluate impact properly. Some impacts appear self-evident and can be evidenced with data collected and published by others. Other impacts are difficult to define or measure, and require a research project of their own to evidence credibly.

I have therefore identified eight different types of evaluation design that can be used to establish cause and effect in different ways (Table 6). Broadly speaking, research impact evaluation methods can be characterised along three continua:

- Asummative focus on evidencing and claiming impacts and being accountable (sometimes referred to as external evaluation), versus a formative focus on learning, adaptation and taking epistemic responsibility for the generation of impact (internal evaluation)
- Sole attribution versus significant contribution: tracing pathways to impact and assessing the significance of the contribution
- *Ex-ante* efficacy assessments of what in theory will work, including anticipation of the impacts to be generated, versus ex-post effectiveness assessment of what works in practice

Each type of impact evaluation in Table 6 is located in a different place along the three continua described above. They each take a different approach to establishing cause and effect (between research and impact), and give rise to different forms of evidence. Many of the methods can be used to monitor impacts as they arise as well as evaluating impacts after the event.

Select an evaluation design based on the sorts of data you think you will be able to obtain, and the types of impact you want to evaluate. It is possible to use more than one evaluation design in a mixed methods approach to impact evaluation, e.g. case-based evaluations typically integrate a number of methods as part of an overarching narrative (more on this approach later in the chapter).

Evaluation may provide direct, sole attribution of impact to research (e.g. via an experimental or statistical evaluation design). However, more often than not, attribution is indirect and/or partial, requiring more nuanced approaches to evaluation, such as contribution and pathway analysis, evidence synthesis, or participatory and arts-based methods (Table 6). As a result, the goal of most evaluations of research impact is to assess the extent to which research made a *significant contribution* towards an impact.

Justifying the significance of the contribution may be done via statistical inference of a proportion of impacts that can be attributed to the research (e.g. impacts above a baseline after publication of the research). Depending on the type of impact you have generated, this sort of evaluation can be particularly useful for assessing indirect impacts (e.g. where the research stimulates other activities that ultimately lead to the impact) and cumulative impacts (e.g. where the impact of the research is dependent upon other impacts that occur in parallel based on other sources of evidence).

However, it is often more feasible and appropriate to build a more multi-faceted argument about the extent to which the contribution can be argued to have particular value or meaning in a specific context (e.g. closing a small legal loophole that was costing taxpayers millions or contributing towards the design of a specific policy mechanism within a new directive that led to substantial benefits), supported by multiple forms of evidence including testimonials. For example, for an indirect impact, a researcher may be able to trace a pathway from the impact to their research via multiple causal links in a chain of events all the way back to the research. If the first causal link from the research to the rest of the chain can be demonstrated to be directly linked to the research and each of the subsequent links can be shown to be dependent on that first causal link, then a robust argument can be made that the research made a significant contribution towards the ultimate impacts.

I have provided examples of methods you may want to research and try out for each of the eight different types of evaluation. These include a mix of qualitative and quantitative methods. There is no single right approach, and many researchers adapt methods from their own disciplinary toolkit to evaluate impact, or stick with types of method (e.g. qualitative or quantitative) that they feel most comfortable with. In addition to feeling comfortable with the methods you select to as part of your evaluation design, it is important that they are suitable for assessing the types of impact you are evaluating. Play 'devil's advocate' and ask yourself what you would need to do to convince someone who does not believe that your work has led to any sort of impact. In some cases, to be convincing you will need quantitative evidence, for example, an increase in visitor numbers and museum revenues after the installation of a new exhibit based on your research. In other cases, qualitative evidence will be more convincing and appropriate, for example, illustrative quotes describing how engagement transformed people's attitudes towards an issue or group of people.

3. Choose methods for determining the reach of the impact

The reach of an impact typically extends in two ways:

- Impacts may ‘scaleout’ if they spread from one individual or community to another, for example, as people pass evidence to colleagues or adopt a new research-based innovation.
- Scaling-up happens when an impact reaches a higher institutional or governance level (e.g. from a delivery agency to a government department), or a wider spatial scale (e.g. widening the reach of an impact from a farm to catchment level).

Evaluation methods need to be adapted to the type of scaling process through which reach occurs. For example, I recently assessed institutional scaling-out via a combination of quantitative Social Network Analysis of research findings as they were passed from person to person through policy and practice networks, combined with qualitative interviews to understand what was passed to whom, how and why. For another impact evaluation, I wanted to understand how my research was scaling up from local pilot projects to a national scheme, and so set up a registry that all new initiatives based on my research had to join, to track the impacts they achieved. For many impacts that scale up geographically, there will be third parties collecting data (e.g. public statistics) that can be used to infer reach. Sometimes you have to collect this data yourself. For example, I designed an impact evaluation for a colleague who wanted to be able to demonstrate that his research on the health benefits of organic food was influencing purchasing decisions across Europe, and we had to commission a large-scale survey of consumers in two countries before and after publication of his work to be able to infer cause and effect, before then being able to use European data that showed a spike in the consumption of organic products after the publication of his research. In Part 4, I have described how you can design an evaluation to find out how your work might be being used by policy-makers around the world.

4. Collect and analyse evaluation data

You don’t have to wait till the end of your research to start collecting evaluation data. While you’re still on your pathway to impact, engaging with publics and stakeholders, start collecting data to look for specific planned impact milestones. Build opportunities for longitudinal evaluation into your work, for example, incentivising participants to provide you with their email addresses (e.g. via a prize draw or joining a mailing list that provides additional free benefits or opportunities), so you have the opportunity to re-engage people to deepen and broaden your impact, and follow-up with

surveys or interviews later to find out if longer-term impacts have arisen from your work.

There are often important opportunities for formative feedback if you evaluate impacts during the research cycle (see ‘what should I evaluate’ above). The types of evaluation and methods that are identified in Table 6 are designed for assessing progress towards pre-identified impacts. You can expand the range of impacts you are evaluating, if you think the original impact goals were too narrow. However, it is important to also collect data opportunistically as impacts arise that you are not expecting. To do this you will need some sort of system for storing material you think might be relevant later, quickly and easily (see the next section).

Finally, it is important to keep some perspective and bear in mind that not all impacts require the same level of evidence. For highly controversial, multi-factorial, contested or high-profile impacts, such as a new drug discovery or genetically modified crop that increases yields whilst reducing pesticide and fertiliser use, you might be expected to supply a heavy burden of proof. For more obvious impacts where there is a clear theory of change leading to an apparent impact, a lighter burden of proof may be appropriate. For example, if providing mains water to a village reduces the amount of time households spend collecting water, the only plausible explanation is the improved proximity of water. Similarly, the introduction of hand-washing in hospitals was based on a dramatic reduction in maternal mortality observed in a hospital in Vienna in the 1840s, despite the fact that the germ theory of disease had not yet been proposed and so there was no way of proving cause and effect. In some cases, simply being able to triangulate more than one source of evidence, even if that is only based on a strong testimonial, may be all that is necessary to attribute impact to research convincingly. If you are not sure whether you have done enough to demonstrate your impact, get a second and third opinion, and test how well your arguments stand up to scrutiny.

Table 6: Types of research impact evaluation with examples of commonly used methods, defining characteristics, approach to establishing cause and effect (between research and non-academic impact) and examples of the sorts of evidence they give rise to

Type of research impact evaluation	Examples of commonly used frameworks and methods	Characteristics	Approach to establishing cause and effect	Examples of evidence	Types of impact typically evaluated
Theory-/logic-driven	Theory of Change; Logical Framework Analysis; Fast Track Impact Planning Template (Table 3, Chapter 10) and other logic models	Can be used in summative or formative mode, typically *ex ante* (but can be used *ex-post*), to show contribution rather than sole attribution	Generative causation, identifying causal processes in chains from the generation of research to impacts in the context of wider supporting or mediating factors and contexts	• Indicators will be set at the outset to monitor progress along proposed pathways to impact, e.g. hectares of land restored, followed by reduction in water pollution, savings to water companies and reductions in water bills	• All types of impact
Experimental and	Randomised controlled trials; quasi and natural experiments; regression	Typically used in summative mode, *ex ante*	Counterfactual causation based on the difference	• Improvements in water quality based on	• Economic impacts

quantitative survey work	discontinuity studies; monetary and non-monetary (deliberative and non-deliberative) choice experiments; non-monetary valuations (e.g. multi-criteria evaluation); economic (game) experiment; other forms of social and economic impact assessment; direct measurement of key variables pertaining to impact via sampling of treatments versus control; indirect measurement via indicators to infer impact; model-based approaches, calibrated and validated with more limited sampling; questionnaires (e.g. evaluating levels of awareness before and after engagement such as entry/exit quizzes or before and after Likert scale questions to quantify the extent to which attitudes	and/or *ex-post*, to infer sole attribution or quantify the extent to which an impact can be attributed to research	between two otherwise identical cases (including individuals, sites, environments/contexts), one that is manipulated and the other that is controlled giving rise to evidence of cause and effect	improved regulation arising from research • Reduced morbidity and mortality among patients receiving new treatment based on research compared to control group • Cost savings attributed to a new treatment or intervention compared to a baseline or control • Changes in awareness or attitudes before and after engagement • Monetary benefits arisen from a change on land manage practice	• Environmental impacts • Health and well-being impacts • Policy impacts • Other forms of decision-making and behaviour change impacts

	have changed), website or in-app questions based on interactions with website or app content, multiple-choice questions (e.g. before, during and/or after public lectures); photo survey technique			informed by research • Optimization in the choice of policy instrument to promote a public health intervention, informed by research	
Statistical	Statistical modelling; longitudinal analysis; econometrics; Payback Framework; difference-in-difference method; double difference method; propensity score matching; analysis of distributional effects; value of information analysis; Cost-Benefit Analysis; value for money measures; analysis of secondary data showing evidence of behaviour change (for example,	Typically used in summative mode, a piori and ex-ante, to infer sole attribution or quantify the extent to which an impact can be attributed to research	Causation inferred from correlation between cause (dependent variables) and effect (independent variables) or statistical difference between effect before/after or with/without an intervention (cause), controlling where possible for confounding effects,	• Numbers of companies, employment or new roles in the workforce • Numbers of (or profits from) new commercial products or spin-out companies • Improvements in indicators of social cohesion or social mobility	• Economic impacts • Environmental impacts • Health and well-being impacts • Policy impacts • Other forms of decision-making and behaviour change impacts

	purchasing behaviours); analysis of secondary data showing changes in capacity (such as access to resources that were not previously available)		and quantifying the extent to which effects can be attributed to multiple causes	• Probability of time, money, species, or lives saved as a result of new evidence-based practices	
Contribution and pathway analysis	Contribution analysis; knowledge mapping; Social Network Analysis (e.g. before and after your work, showing larger, more connected networks); Bayesian networks; agent-based models, Dynamic System Models; influence diagrams; changes in policy linked to your research (evidenced via mentions and citations in policy documents and/or testimonials from policy-makers)	Typically used in formative mode to provide feedback to enhance impacts in progress, as a way of assessing the extent to which research contributes to impact	Additive causation based on tracing links between causes and effects along causal chains or pathways to impact	• A significant contribution made by research to the solution of a previously intractable problem • A significant contribution to the development of a new policy mechanism • Increase and strengthening of the number of nodes or connections in a social network	• Policy impacts • Other forms of decision-making and behaviour change impacts • Capacity or preparedness

				following a participatory process	
Case-based and narrative analysis	Case studies; testimonials; ethnography; participant observation; qualitative comparative analysis; linkage and exchange model; content analysis or Grounded Theory Analysis of interviews, focus groups and vox pops; Q methodology to quantify and categorise people who identify with contrasting attitudinal statements derived from interviews; opinion polls; qualitative analysis of written comments (e.g. left in visitor books, feedback forms, written on a graffiti wall or written on postcards that are posted back to participants after the event)	Typically used in summative mode, ex-ante, to assess the extent to which research contributes to impact	Causation is inferred by building a case that triangulates multiple sources of evidence (potentially including the outcomes of other types of evaluation, such as statistical or experimental) to create a credible argument for a significant contribution of the cause to an effect, sometimes based on the narrative of a theory of change	• Citations relating to policy-making processes, new legislation or a change in the law influenced by the research • Evidence that policies have been implemented and are meeting their objectives • Improved compliance with regulation • Testimonials from practitioners explaining how they gained capacity (e.g. improved skills,	• All impact types

				understanding and confidence levels) that enabled them to enhance their practice	
Participatory	Participatory monitoring and evaluation; empowerment evaluation; engagement evaluation; action research and associated methods	Typically used in formative mode to enable beneficiaries to engage and shape feedback that then enhances impact, while impact generation or ex-ante is in progress, as a way of assessing the extent to which research contributes to impact	Causation is inferred by jointly building a case with beneficiaries that triangulates multiple sources of evidence (including data collected by beneficiaries) to create a credible argument for a significant contribution of the cause to an effect	• Improvements in variables that indicate the achievement of goals set by a stakeholder or other social group who co-produced research (e.g. number of community members having acquired a particular skill) • Changes in perception of a resource management issue	• Environmental impacts • Health and well-being impacts • Policy impacts • Other forms of decision-making and behaviour change impacts • Cultural impacts • Capacity or preparedness

Evidence synthesis	Meta-analysis; narrative synthesis; realist-based synthesis; rapid evidence synthesis; systematic reviews	Used in summative mode, *ex-post*, to infer sole attribution or quantify the extent to which an impact can be attributed to research	Cumulative causation based on the systematic aggregation and analysis of cause and effect across multiple evaluations (of any type) in different contexts	• Time, money or lives saved as a result of new evidence-based interventions or practices • Evidence that an intervention works across multiple contexts	• Economic impacts • Environmental impacts • Health and well-being impacts • Policy impacts • Other forms of decision-making and behaviour change impacts
Arts-based	Ethics (philosophy); linguistics; aesthetics; creative expression; oral history; story-telling; digital cultural mapping; (social) media analysis	Can be used in summative or formative mode, while impact generation is in progress and/or ex-ante, to assess the extent to which	Causation is inferred by building a case that triangulates multiple sources of evidence (potentially including the outcomes of other types of evaluation, such as statistical or	• Changes in awareness or attitudes of a social group as a result of engaging with research • Changes in culture, cultural discourse or	• Environmental impacts • Health and well-being impacts • Policy impacts • Other forms of decision-

		research contributes to impact	experimental) to create a credible argument for a significant contribution of the cause to an effect	appreciation and benefit from cultural artefacts and experiences	making and behaviour change impacts • Cultural impacts • Capacity or preparedness

Communicating your evaluation as evidence of impact

In some cases, you will be able to use your evaluation findings directly to evidence your impact, for example if you conducted a randomised control trial, or if you are able to submit raw data as evidence. However, it is often necessary to take an additional step to analyse and publish evaluation findings in a way that makes them publicly available, and which you can then cite as evidence to support impact claims. You may have conducted an impact evaluation survey, and as a result, you may now know that your research has had an impact. However, it may not be reasonable to expect others to take this on trust, if the evidence is a pile of completed questionnaires sitting on your desk. By analysing and publishing your findings, you turn your evaluation into evidence.

Depending on how controversial or important your findings are, to be believable, you may need to consider how you publish them. For example, publishing your evaluation findings as a blog or on your own website may be an acceptable way of opening your evaluation findings to public scrutiny for a small project that is not making particularly controversial or significant claims to impact. However, for a large project that is making controversial or significant impact claims, it is not unreasonable to expect a more detailed report to be published more formally. For example, you might publish your findings as a report co-branded by your institution and project partners, an independent report written by a consultant and published by your project partners, or as a peer-reviewed article. I have written in greater length about these options in Part 4, “Writing up an impact evaluation as a research article”.

A case study is an effective way of communicating the wide range of impacts possible from research, using a diversity of evaluation methods. The world’s largest database of research impact case studies was published in 2014, containing over 7000 cases (http://impact.ref.ac.uk). For UK readers, I have provided a guide to writing a top-scoring case study for the Research Excellence Framework in my guide in Part 4 of this book. In summary, based on my analysis of high- and low-scoring case studies from the 2014 database, impacts in top-scoring case studies were:

- Significant;
- Far-reaching;
- Clearly articulated;

- Convincingly evidenced; and
- Focused on the benefits rather than the pathways to impact.

Creating an impact case study is partly about having high-quality evidence to corroborate your claims of significance and reach. However, it is also partly about the narrative you create, as the following examples illustrate.

'Turner's Yorkshire' is an example of impact arising from research in fine art. Professor David Hill from the University of Leeds published extensively on Turner's work, highlighting Yorkshire as a landscape of international significance. His fieldwork tracked the artist's travels through the county, locating, examining and photographing his viewpoints as they survive today. A tourist promotion, 'Discover Turner's Yorkshire', gave this work much wider public impact, with published and online materials, such as the Turner Trails website (with walking routes and audio guides) raising public awareness of the significance of the county to the artist (Figure 20). This increased tourism and brought economic and social benefits, which the researchers quantified as far as possible in their case study.

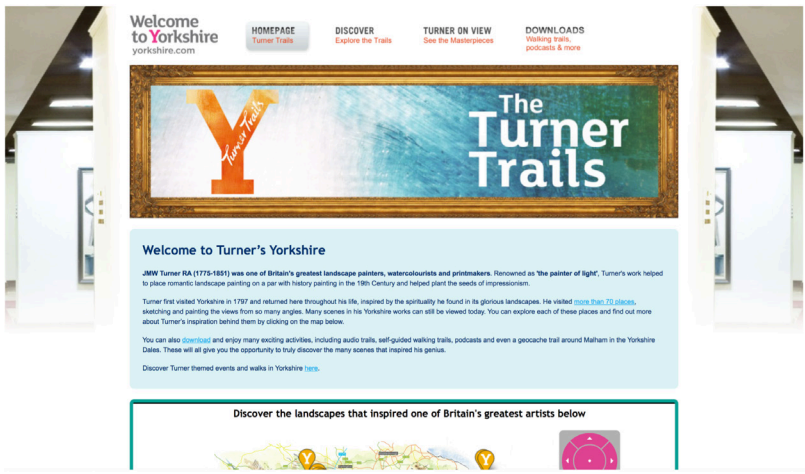

Figure 20: Screenshot from the Turner Trails website

What interests me about this as an example of an impact case study is the comprehensive and innovative use of evidence:

- 100,000 page views, 10,000 downloads
- Estimated 1.25 million visitors saw interpretation boards
- Visitors to Turner Trails spent on average £199 per head per trip
- Over 50% of local tourism businesses thought the project had a positive effect on business
- Extensive media coverage equating to £600,000 in total Advertising Value Equivalency (note: this measure is not viewed as being credible nowadays)

Cardiff University's DECIPHer-Assist project claims to be the UK's most effective school-based smoking prevention programme. Peer-nominated students aged 12–13 were taught how to intervene as 'peer supporters' with their Year 8 peers in everyday situations to discourage them from smoking. The impact of this education research was given the highest possible grade in the UK's Research Excellence Framework. Evidence of the impact included:

- Over 60,000 students have taken part since 2010
- Cited as good practice in policy documents
- Cardiff research suggests 1,650 young people will not go onto take up smoking as a result
- Treatment of lung cancer in England costs £261M per year. If implemented throughout the UK, DECIPHer-Assist would prevent 20,000 young people taking up smoking each year
- Award-winning company setup to licence the programme

A University of York sociology project called 'Advising the advisers' helped improve the conduct of adviser-claimant interviews in Jobcentres. This impact was also awarded the highest possible grade for its significance and reach. Policy-makers learned about evidence via working papers and presentations, and changes in policy resulted from the work, including new procedures and compulsory training for advisers. This impact was evidenced using testimonials from those who had benefited from the work, such as this one, from a senior civil servant:

"This research has had impacts in immediate and potentially long- term performance gains. We are now using the results of this research to develop and test [an evidence-based] adviser training programme. The results of this research have the potential to change the whole adviser training approach"

These examples show the wide range of different types of impacts and evidence that can be used in case studies. They also show how differently impact is evidenced in different disciplines. You can read thousands more in detail at: http://impact.ref.ac.uk. It is worth dipping into this database. Browse through case studies in your subject area or search for keywords you are working on if you want some inspiration. Read through the descriptions of impact to get new ideas about types of evidence you could collect and use to communicate your own impacts. If you are interested in how to write a high-scoring case study for the next Research Excellence Framework, I have written a guide in Part 4.