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Challenges of reporting societal impacts for research evaluation purposes – case of sociology

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Abstract

This study explores the challenges of reporting societal impacts for ex post evaluation purposes. Our starting point are the challenges researchers meet when writing about narrative impact cases. We introduce a distinction between the *factual* and *rhetorical* components of impact arguments. With this, we highlight how a focus on societal impacts as *effects*, in combination with requirements to support impacts with *evidence*, sets limits to the reporting on impacts. We apply this distinction in an empirical analysis of impact case studies submitted by sociologists to Research Excellence Framework (REF2014) in the United Kingdom and to Sameval 2018 in Norway, and we highlight the challenges researchers face in building arguments regarding instrumental, conceptual and symbolic impacts. Based on our findings, sociologists encounter problems specifically in evidencing conceptual impacts, that are claimed to generate the most profound changes in society. In building causality and credibility into the cases, the ultimate challenge remains: Indirect, non-linear and diffuse impacts are too vague to be captured in a concrete manner.

Keywords: societal impact, research assessment, uses of research, social sciences, conceptual impacts

Introduction: From science policy ideals to research evaluation practices

Modern science arose from the idea of instrumental rationality, where science was considered to be generally good for social and economic progress. However, what was taken for granted some 50 years ago—that investing in research is self-evidently valuable (Plumb, 1963)—has now fallen prey to the demands of being able to concretely demonstrate the use of value created (Benneworth et al., 2017; Nussbaum, 2012). A new social contract between science and society is emerging in which research demands accountability and transparency to its funders and society to justify the resources spent on research (Benneworth et al., 2016). This has materialised in the introduction of a set of research evaluation systems with the aim of demonstrating the societal impacts of research, and researchers across the world have been challenged to describe and document how their research has contributed to societal change.

The complex and contextual nature of societal impacts represents a common challenge for evaluation systems. Evaluations of research quality and academic impact have largely united behind a set of metric indicators, ensuring efficiency and less time-consuming evaluation exercises for all actors involved (Donovan, 2019). Compared with the relatively unified landscape of evaluating academic impact, evaluations of the societal impact of research are still characterised by diversity, both in terms of how impact is conceptualised and of the methods and frameworks used to demonstrate and assess the societal contributions of research (Budtz Pedersen et al., 2020; Muhonen et al., 2020). Societal impact is still a contested concept, and the practices and theories of impact assessments have not yet matured.

In this chapter, we explore the challenges researchers face when reporting societal impacts for evaluation purposes in narrative impact case studies. The narrative form of impact case studies has been promoted as a method suitable for capturing the high degree of complexity involved in impact processes and the diverse pathways and social contributions across different disciplines and contexts (Budtz Pedersen et al., 2020). By combining insights from the literature on research utilisation (e.g. Boswell & Smith, 2017; Nutley et al., 2007; Weiss, 1979) and argumentative analysis (as applied by Hellström & Hellström, 2017, among others), we show that the focus on societal impacts as *effects* in combination with requirements to demonstrate the impacts with *evidence* sets adverse limits to the reporting of societal impacts. We approach the topic empirically by studying how researchers manage their evidencing of different kinds of impacts based on three categorisations of research uses— instrumental, symbolic and conceptual (Weiss, 1979, 1980). Because we are interested in

studying possibilities of demonstrating and evidencing impacts, our focus is on ex post evaluations.

The challenges of measuring societal impacts

The challenges of measuring and assessing impacts are well known in the prior literature on evaluations of societal impact. Martin (2007) summarised challenges in evaluating impacts in four points (see also Bornmann, 2013; Penfield et al., 2014). The first concerns *causality* and the problem of attributing impacts to certain causes. The second is the problem of *attribution.* Impacts may be complex and diffuse, even contingent, and it might not be possible to differentiate between what has happened because of research and what is based on other inputs. The third emerges because science is *incremental* by its nature, which makes attribution of impacts virtually impossible. Fourth, there is a problem of *timespan* in measuring impacts and a challenge of providing evidence for long-term impacts. The actual impact may also vary over time, and the timing of the evaluation may affect the strength of the impact.

Penfield et al. (2014) pointed out that the nature of how research engages with society poses a challenge for evaluating impact. The definitions of societal impact forming the basis for impact evaluations are deeply rooted in simplistic assumptions about linear causal relationships, which assume that research can make direct societal contributions (Boswell & Smith, 2017; Penfield et al., 2014). The assumption of linear causal relationships is thought to be particularly problematic for research in the social sciences, which typically relates to stakeholders in policymaking. As a field, policymaking is driven by 'messy' and unpredictable processes where researchers struggle for attention alongside a range of other actors in environments of information overload, and the challenge lies in understanding how policymakers act to filter and mobilise relevant research for action (Daviter, 2015).

Decades of research into research utilisation have shown that research seldom has direct impacts, and that there is not a single way of using research (Daviter, 2015; Nutley et al., 2007; Schrefler, 2010). Often, research shapes society through diffuse processes, where research is absorbed over longer periods, captured in the notion of 'knowledge creep' (Radaelli, 1995; Weiss, 1980). This can lead to gradual changes in actors' ways of thinking and discursive shifts, which may contribute to more significant and profound societal changes over time than direct applications of research that are also more difficult to demonstrate

through evidence. This leads to the core challenge, in evaluating and measuring impacts raised by Penfield et al. (2014), the requirement that the links between research and impacts should be demonstrated through evidence. This is a challenge both because such links cannot be proven in many cases because of the attribution problem mentioned above and because evidence from past events may no longer be available. Whereas the impact of research is likely to increase over time, the ease of attributing and evidencing such impact is likely to decrease (Smith et al., 2020).

Narrative reporting has been seen as a kind of compromise enabling researchers to describe the non-linear and heterogeneous impact pathways that lead to research use in real-world settings (Budtz Pedersen et al., 2020). Thus, the Research Excellence Framework (REF) impact case study methodology, originating in the United Kingdom, has become one of the most established ways to evaluate societal impact, and it has influenced the ways impact evaluations are conducted across Europe (Lyytinen et al., 2015; Budtz Pedersen et al., 2020). The other flagship of research evaluations in Europe, the Standard Evaluation Protocol (SEP) in the Netherlands, also uses impact case studies for ex post impact evaluation—not on the level of researchers or research groups, but instead, on that of departments. The REF methodology is based on researchers' reporting of their impacts. The template also includes a specific 'Details of the impact' section, where researchers are asked to link research outputs to societal changes.

Despite its advantages, the REF methodology has received a lot of criticisms; among other things, these have focussed on its weak theoretical foundations and the unresolved tensions regarding measuring impacts, as well as on the biased performative effects of the evaluation exercise (Smith et al., 2020). Such challenges are reinforced by the way scales are used to assess impacts, by encouraging cases that can demonstrate significance ('*intensity of the influence or effect*') and reach ('*the spread or breadth of influence or effect on relevant constituencies*'; Derrick & Samuel, 2016) and the way these are connected to the allocation of funding (e.g. Scott, 2013). These are dimensions that address core questions raised in the literature on research utilisation and in studies of science in society: How is research engaged and used by different actors in society? With what outcomes?

Analytical framework

Despite the well-documented challenges of measuring impact in previous literature, researchers in different countries are confronted with the demand to report impact pathways for evaluation purposes and give evidence on their impacts. In this study, we shed light on the researchers' prospects of demonstrating the societal impact of their work and the nature of the impacts reported.

By drawing on the literature on research utilisation (Boswell & Smith, 2017; Nutley et al., 2007; Weiss, 1979) and argumentative analysis (Hellström & Hellström, 2017), we introduce a distinction between the factual and rhetorical components of impact narratives. This allows us to demonstrate the most typical challenges in building impact arguments in the light of three modes of research uses—instrumental, conceptual and symbolic. On the one hand, impact cases can be read as factual reports of how research has engaged with audiences and has been applied in different contexts; on the other hand, they can be analysed as a rhetorical exercise of producing convincing accounts to persuade the reader of the significant and widespread societal impact of research. Hence, as a researcher writing an impact case, it is not sufficient to have contributed to significant societal changes. As writers of impact cases, researchers must also produce credible impact arguments to convince the reviewers who eventually score the 'significance' and 'reach' of the impact case.

The two perspectives on impact cases—the factual and the rhetorical—refer to two different branches of research discussing the societal impact of research and its evaluation. While the nature and scope of reported impacts relate to thinking on research utilisation and more generally the role of science in society (see, among others, Boswell & Smith, 2017; Weiss, 1979, 1980), the question of how to demonstrate impacts is also a matter of narration and the use of persuasive causal claims backed by credible evidence (Hellström & Hellström, 2017; Lim, 2020). Below, we lay out the analytical framework for discussing the nature of research utilisation and the potentials of narrative strategies in writing impact cases in more detail. We then discuss how we apply these in our empirical investigation of narrative impact cases submitted by sociologists to REF2014 in the United Kingdom and to Sameval 2018 in Norway.

The nature of research utilisation

The literature on research utilisation is characterised by a plurality of perspectives on the relations between science and society, the ways in which these two spheres interact and the ways in which science makes a difference in society (Boswell & Smith, 2017). It is indebted to the seminal contributions of Carol Weiss. In her short but formative summary of the many meanings of research utilisation, Weiss (1979) introduced seven different modes of the uses of research, which can be further summarised in three different modes of research knowledge use—instrumental, conceptual and symbolic uses of research (cf. Nutley et al., 2007)[1]. The main distinctions between the three are found in the degree to which research is valued for its substantive or strategic potential and in whether research is used directly to solve specific problems or more indirectly through the conceptual and gradual change in how phenomena are understood (Table 1).

Table 1: Distinguishing between different uses of research

	Substantive	*Strategic*
Direct	Instrumental	Symbolic
Indirect	Conceptual	

Instrumental uses of research refer to the direct and immediate impact of research on society, that is, in policymaking or in practice decisions. Thus, it connects particular societal actions or changes to the application of a specific research output and assumes by this the *direct* influence of research on society. Weiss (1979) distinguished two modes of instrumental uses. The knowledge-driven mode captures the essence of linear modes of research use where the sheer presence of new knowledge will compel its use in society. The problem-solving mode of research use refers to the other side of the process, where actors search for knowledge to solve a pre-identified problem. However, the common assumption underlying the two modes is that, if the appropriate knowledge is brought in, then further actions will take place accordingly. The concrete application of research in the instrumentalist mode suggests that such use can be observed, for example, in changed policy positions with reference to specific research or in the application of research to determine the choice of a policy instrument.

[1] Others also introduced slightly different categorisations of research use with more fine-grained categories for the symbolic uses of research (see Boswell, 2009; Daviter, 2015; Schrefler, 2010).

Research is then used to alter particular outputs, and its effects should be demonstrated empirically. In addition, instrumental uses are often based on specific research findings rather than incremental research outcomes.

Although the instrumentalist account is commonly presented as the correct way to use knowledge (Boswell & Smith, 2017; Schrefler, 2015), it has met with substantial criticism on several grounds. First, as a contradictory note, actors often fail to consider research findings; relevant research is regularly produced and brought into processes without causing new or altered actions (Boswell, 2009; Caplan, 1979; Nutley et al., 2007). In addition, decisions are often made despite the advice from existing research (Holst, 2015). Second, it is argued that research has a more diffuse, gradual and *indirect* impact on society. This 'enlightenment' function of research (Weiss, 1979, 1986) is less traceable and more difficult to observe. It refers to the ways in which knowledge 'creeps in' over time and alters how phenomena are understood, along with the words and the concepts used to think about them. This indirect and conceptual mode of research use accordingly facilitates deeper societal changes compared with the instrumental uses of research because it alters the fundamental understanding of issues at stake. It is also seen as more diffuse and longer term, as it acknowledges the incremental nature of research and the ways in which research integrates into broader societal discourses and processes. Thus, it is typically associated with broader bodies of research larger than single research outputs. On a contradictory note, a conceptual mode of research use may also take place over short time horizons, for example, when new understandings change the societal agenda or when external shocks challenge previous ways of thinking and trigger new ways of seeing things.

While instrumental and conceptual modes of research use assume that research is used for substantive reasons—that is, research is valued for its content (see Table 1)—Weiss (1979) observed that research is also valued and used for purely strategic reasons to support predetermined positions. By drawing on research, both organisations and actors can enhance their legitimacy and position in society or signal that they take something seriously. In addition, research can give authority to specific positions, which can be held independently of the research in question. In such cases, the content of the research is not responsible for societal changes, and it is associated with popular concepts, such as 'cherry picking' of research, as well as ad hoc rationalisations of predetermined decisions and positions. The hidden motivations and the dual communication involved in strategic uses of research make it more difficult to detect empirically. Hence, researchers who study the strategic uses of

research often base their conclusions on lengthy observations of research use in specific contexts. Nevertheless, some questions can be asked to distinguish strategic from substantive uses: First, does the application of research in a given context possibly change the outcome of a situation, or was the outcome decided in advance? Second, to what extent is research used to bolster the position of the research user in the eyes of others?

Building credible impact arguments

Writing impact cases is not just an act of reporting facts; it is also an act of persuasion whereby the researcher presents arguments to convince the reviewer of the superiority of the reported societal impact. Hellström and Hellström (2017) compared this with the production of policy texts, where the purpose of the text is to produce policy actions, not just to report what is known. To convince the reader, a strategy is adopted where the text is written to signal causal relationships through narrative sequencing, such as the presentation of a linear development of events. This involves the production of simplified narratives linking events to causal sequences aimed at persuading the reader to accept the narrative. Regarding so-called impact arguments (Hellström & Hellström, 2017), this implies linking research to specific societal impacts through a set of statements about the events that led the research to cause certain societal changes. Such causal pathways are modelled over an X to Y argument, where the research (X) causes impacts (Y) with the help of a set of mediating events (a-b-c), which together constitute the causal sequence. Hellström and Hellström (2017) studied how the impact of research and innovation programmes is accounted for in impact evaluation reports. Their starting point was that impact reports typically present impact arguments based on causal assumptions, yet impact arguments typically involved specific omissions: Specific parts of the arguments are skipped regarding X, Y and a, b, c and the relationships between them. Based on their analysis, they suggested three main types of inferential omissions, which are as follows: abc ellipsis, X ellipsis, and Y ellipsis. In analysing the logic of impact arguments, we use this approach to illustrate how researchers build impact arguments to support different kinds of societal impacts in impact narratives.

To support the impact argument, narrative impact cases also present evidence that corroborates the claims made in the argument. This is a requirement in evaluation contexts, yet it is also a common mechanism in settings where researchers strive for credibility and trust (Lim, 2020). As Latour and Woolgar (1986) argued, credibility is a necessary asset for

scientists to be able to continue their activity, and this is also relevant in the realm of impact case studies, where researchers introduce so-called *credibility markers* (Derrick & Benneworth, 2020; Toma & D'Angelo, 2015) to build the reputation of their claims. While Latour and Woolgar (1986) linked the establishment of credibility to the internal specialist community (see also Hessels et al., 2019), building credibility and trust in impact cases rather depends on activities and artefacts that are understood and valued beyond academia. Thus, we expect that, in many cases, examples of trust-building mechanisms are numbers, which convey a sense of objectivity and certainty (cf. Porter, 1992), as well as access to decision makers, processes and positions. Trust-building mechanisms in impact narratives also appear to stem from efforts to be exact and specific (De Jong & Muhonen, 2020). Since impact cases are assessed on a scale where 'significance' and 'reach' are relevant dimensions for awarding a score, we assume that higher numbers regarding, for example, outreach or effects measured in terms of money will be highlighted, along with those focussing on access to decisions and positions at the top of the decision hierarchy (cf. Watermeyer & Hedgecoe, 2016).

Data and methodology

We have chosen the field of sociology as the empirical case of our study. Sociology is a typical example of what has been characterised as a 'pure' and 'soft' field (Becher, 1989; Knorr Cetina, 1999). 'Purity' refers to the basic research orientation of the field. Compared with 'applied' fields, pure fields, like sociology, tend to have a higher standing in academia; however, they are also expected to have weaker links to societal stakeholders than hard-applied (e.g. engineering) or soft-applied (e.g. education) fields. Moreover, where 'hard' fields are described as producing knowledge that shows relatively steady cumulative growth, among 'soft' fields, there is more often a lack of consensus over significant questions and theories.

The empirical material consists of impact cases submitted by sociologists to REF2014 (UK) and Sameval 2018 (Norway). In total, 29 cases were submitted to be evaluated by the panel on sociology in the United Kingdom[2], whereas higher education institutions in Norway submitted 23 cases in sociology[3]. While the impact case methodology was developed for

[2] There were two criteria for selecting cases to be included in this study. First, the selection for the 'Unit of Assessment' needed to be sociology, and second, the sociology needed to be one of the 'Research Subject Areas' (maximum of three) researchers reported on in the case.

[3] In addition, 35 research institutes submitted cases to the evaluation of sociology. However, they are not included for reasons of lack of comparability: The research institutes are mainly private, and they have research and development as their core activity. They receive a small share of public basic funding (about 12.5%), yet their main income is from competitive assets, including a large amount of commissioned research.

REF2014, Norway imported the impact case study methodology for evaluation purposes and has applied it in several evaluation rounds. However, the context of the evaluation differs in how these two countries utilise the results of the evaluation: Unlike the REF results, the Norwegian evaluation results are not used by the Research Council for the allocation of funding, but rather, for learning purposes.

The template instructions of the submitted cases are similar, consisting of five different sections, which are as follows: 1) *Summary of the impact*, 2) *Underpinning research*, 3) *Reference to research*, 4) *Details of the impact* and 5) *Sources to corroborate the impact.* The impact case studies are approximately four-page narratives. The aim of the cases is to demonstrate how research has made a difference in society beyond academia by linking societal changes to specific research efforts. Moreover, they contain details on the organisation and funding of the research, as well as the activities and interactions between researchers and different users. Finally, and not least, they are expected to evidence their impact by adding sources that can corroborate the impact. All impact cases are available online.

While all cases have been analysed with the purpose of gaining an overview of what kind of research use and impact researchers reported in the cases, the aim of our analysis is not to provide a descriptive account of the frequencies of different research impacts and evidence use. Neither do we aim to conduct a country comparison between the United Kingdom and Norway; our intention is not to review the scope and reach of sociology in the respective countries or even the conditions for impact creation. Rather, we seek to raise a question of researchers' possibilities to report on different kinds of impacts for research evaluation purposes. Considering this goal, we selected three cases that we see as representative in demonstrating typical challenges in reporting impacts in the light of instrumental, conceptual and symbolic research uses. Having impact case studies from two different country contexts as data also allows us to reflect on the meaning of evaluation contexts for reporting impact.

Findings

Overall, the impact cases provide detailed descriptions of research efforts, researchers' interactions with different audiences and of how research has eventually contributed to specific societal changes. Although the cases are of limited length, they often contain several narratives simultaneously, reflecting how research is often produced over longer periods under different contexts and including different stakeholders and audiences. Therefore, as readers, we can find

several impact arguments within the same case. For the purpose of demonstrating how different uses of research impel certain impact arguments, we have selected impact arguments that we see as typical for instrumental, conceptual and symbolic uses of research.

Instrumental impacts

Impact arguments reporting instrumental uses of research often refer to changes in public policies and reflect linear pathways from research to policy where researchers have contributed with input to ongoing policy processes or have been cited in policy documents and reports. As such, the case under scrutiny here is atypical because it refers to the use of research by a private company, the Norwegian oil company Statoil. However, it presents a typical linear pathway leading to instrumental use of research in the sense that research is brought in to solve a well-defined problem and is then applied directly with tangible effects.

The case was submitted by a sociologist at a Norwegian university who was approached by Statoil to analyse the causes of a major gas blow-out at the Snorre A platform in 2004. The importance of the case is introduced in its summary: 'The gas blow-out (…) was a very serious incident, where a major economic and environmental disaster was avoided in the very last minute'. The purpose of the research was to prevent similar episodes in the future. By demonstrating the contribution of the research in putting a stop to disastrous contrafactual events, the *significance* of the research is signalled early on. Moreover, Statoil (today Equinor) is one of the world's 50 largest companies and has the Norwegian state as its main shareholder. By referring to this, the researcher further emphasised the significance and reach of the research impact.

The impact case offers a thorough presentation of the research underpinning the impact with descriptions of data and analytical proceedings and the particular analytical approach developed by the researcher. Finally, the findings and main conclusion are presented: 'The blow-out was not coincidental or a result of bad luck, but (…) it could be traced back to a gradual weakening of the safety robustness (resilience) of the Snorre organization'. By this, the case establishes a clearly defined research finding that constitutes the cause (X) of the further events described in the impact argument (see Table 2).

The impact section of the case is followed by a description of the further events along a linear timeline, starting with the reception of the research findings by the top management of Statoil before the follow-up of the report is presented by the organisation. As part of a longer impact argument, this fragment of the text describes the events that link the research outputs to

the final impact of the research. First, (a) the research was *disseminated* to the people at the top of the Statoil hierarchy—the top management group, the Statoil board, and the company's 'Top 300 conference'. The significance of this is demonstrated by the fact that the CEO of Statoil stated publicly on several occasions that this was the most important document he had read in his job. Second, (b) 14 different improvement projects were launched, of which, several directly relevant to the research findings are listed. To emphasise the scope of this implementation, the author states that the cost of these investments was estimated at 6800 MNOK (about 620 million euros).

The final impact of the research (Y) was documented through a follow-up study by the researcher one year later. A series of improvements in the organisational routines, procedures and awareness are described, not only of the Snorre organisation but also of other offshore fields. The importance of the changes was substantiated by a person in the top management of Statoil, who stated, 'We have become much better'. The impacts are described as direct outcomes of the research findings and seen together the case follows a most typical linear impact argument.

Table 2: Logics of impact arguments—case of an instrumental research use

Impact argument	X →	a →	b →	Y
Events	Research	Dissemination	Implementation	Impact
Credibility markers	Severity of the research, specificity of the research	Elite audience, VIP testimonial	Cost of implementation	Follow-up report, scaling up, VIP testimonial

Moreover, the impact argument is backed by several claims that bolster the credibility of the case, as well as its significance and reach. First, the *significance* and severity of the problem addressed by the research is established early on, along with the specific solutions that the research is proposing. Second, the elite position of the audience—the top management of Statoil—emphasises the value of the research in the eyes of authoritative users. Third, the use of numbers to express the size of investments in the implementation phase further emphasises the value of the impact. Finally, the impact is documented by a follow-up report, and the *reach* of the impact is bolstered by specifying that the research has spread to other organisations. Finally, a 'VIP' confirms the impact.

While the case is extraordinary in the sense that the researcher has conducted a follow-up study that documents the impact of the research, it is also an example of the instrumental impact of research as it is applied directly in the organisation that was the target of the research. This is often the case for commissioned research, where the impact is largely determined even before the research is carried out. Nevertheless, the case illustrates how the impact argument is built on a linear narrative, where the research is presented as the cause of the organisational changes.

Conceptual impacts

Sociological knowledge can be characterised as broad and general (Turner & Turner, 1990). Rather than being associated with a particular study object or methodology, such as psychology being about the human mind and pedagogics being about teaching and learning, sociology is united by its *sociological imagination* (Mills, 2000) and the *sociological eye* (Collins, 1998), which can be utilised to analyse any human interaction and social context (Tellmann, 2021). Characterisation of broad and general sociological ways of knowing is accompanied by the impact arguments presented by sociologists in impact case studies. This is particularly the case linked to conceptual impacts. In their impact arguments, it has been typical for sociologists to present claims that research has *increased our understanding*, *shaped contemporary debates*, *drawn attention*, *reframed the debate* or *sensitised policymakers*. This gives the reader an idea of the challenges typical of impact arguments in sociology.

Our example case regarding conceptual impacts concerns the work of the research group, based in a British university, studying the complex nature of contemporary social divisions. The researchers had developed an approach (X) 'for conveying a more sophisticated understanding of social inequality', stressing 'the range of capitals, assets and resources' at play in class processes and highlighting 'the powerful discriminatory effects emanating from the cultural sphere'. The case describes the value of their research in society in relation to three main impacts, which are as follows: 1) a cooperative partnership with the BBC in implementing the 'Great British Class Survey as a major public sociology intervention on understandings of class', 2) influencing new market research frameworks and 3) applying cultural class analysis (CCA) within the cultural sector challenges policy understandings of how class inequalities are bound up with cultural participation.

We have chosen the case as our example because it describes the most typical omissions in arguing for conceptual impacts—Y ellipsis. When striving to give evidence to effects that

are conjectured and vague by nature, there is a risk that Y will become indeterminable. The following extract is taken from the 'Details of the impact' section:

A cooperative partnership with the BBC, framed both to challenge and extend public understandings of 'class' (and of how class inequalities work). (…) work on culture and stratification led to a public sociology partnership with the BBC in the 'Great British Class Survey'. Its success resulted in an unprecedented public interest in class and inequality.

Here, the case presents effects (Y), which are wide and elusive by nature, 'to challenge and extend public understandings of class (and how class inequalities work)'. It is easy to follow the logics concerning the relationships between the impacts described, research in question and mediating events in between (collaboration with BBC and unprecedented public interest). Thus, for a reader, it is not difficult to agree that this is really how it happened, but when it comes to the genre of impact case studies as a platform for evidencing impacts, problems arise. Despite efforts to build causality and credibility into the case, the ultimate challenge remains: The nature of the effect is too vague to capture.

If we think about the topic of the case, socio-cultural change and social class, a reader of the case would expect the reported impacts to relate to the substance of the research—dynamics of social class inequalities. However, because of the challenges in demonstrating conceptual impacts, it is typical for researchers to support their impact arguments with more concrete verifiable achievements, such as engagement activities, and the broader goals that researchers pursue must settle for the subordinate role in the case. In the case, for instance, a 'cooperative partnership with the BBC' is reported as an impact mechanism (A), supporting the claim of the extended public understandings of 'class' (Y), as well as an impact itself. In this, the case demonstrates the limits of reporting and evidencing impacts in relation to broader research objectives and values. Although a reader could expect the wider aim of decreasing inequality in society to be addressed more directly as an impact, it is also clear that these kinds of wider aims do not fit the genre of verifiable impacts reported in the impact section.

Besides Y ellipsis, omissions concerning impact mechanisms, the problem of a, b and c, were typical for impact arguments describing conceptual impacts in our data. This relates first to the vague nature of conceptual impacts, which poses challenges for addressing key impact mechanisms and causal chains leading to impacts. Second, sociological research seldom happens in a laboratory, and outside a laboratory, it is hard to exclude all the factors that possibly affect the change. Researchers certainly report a variety of engagement activities in

impact case studies, but in the case of abc ellipsis, the link between evidence and impact is blurred, and the narrative leaves the reader without the idea of key mediating mechanisms. The case in question claims to have changed understandings of 'class'. The researchers describe a variety of credibility markers in the impact section, such as numbers of times they have been mentioned in national and regional print media, a testimonial from a BBC producer and the numbers of persons who have responded to the Great British Class Survey. For a reader, it is easy to see the link between these activities and the claimed change; however, where the essence of the reported impact, understandings of 'class', is hard to capture in a concrete manner, addressing mechanisms leading to the impact is nearly impossible.

Table 3. Logics of impact arguments—case of a conceptual research use

Impact argument	X →	a →	b →	(c →)	(Y)
Events	Publication in *Sociology*	Collaboration with BBC	Media visibility	Unprecedented public interest	Challenging and extending public understandings of 'class'
Credibility markers	Established journal	VIP testimonial (BBC)	Variety of media engagements, numbers	Numbers, VIP testimonial (BBC)	VIP testimonial (BBC), numbers

Symbolic impacts

Symbolic uses of research—also called strategic or political uses of research (cf. Weiss, 1979)—have received increasing attention in research on research utilisation, where it has been found that research is often not valued for its content but for its authoritative status and prestige (Boswell, 2009; Boswell & Smith, 2017; Daviter, 2015). Although research is used and referenced in such instances, it is primarily used to support predetermined positions and to drive change, making decisions independent of the content of that research. In an impact argument, this would be modelled as a misplaced X, but with an observed Y (impact) and possibly also as events that lead to Y taking place. While such uses of research are expected to take place extensively in policy contexts where research is valued but where interests dominate, they are difficult to document (Daviter, 2015). In an evaluation context, as with the impact cases, such uses are more likely to appear as instrumental uses of research where research is referred to in reports or decisions to bolster the credibility of a decision. In addition, symbolic uses of research are generally poorly treated in the literature on impact assessment, despite its

alleged prevalence (Boswell & Smith, 2017). Accordingly, there are few obvious examples of symbolic impacts in the cases submitted by sociologists in the United Kingdom and in Norway.

Upon closer inspection, a case provided by a Norwegian professor that chaired a governmental commission on integration policy provides hints of symbolic impacts. The case describes an ongoing reform of Norwegian labour and welfare policies aimed at reducing possible negative effects of immigration and increasing the labour market participation of marginalised groups. The case lists a set of policy changes that were implemented following the recommendations of the governmental commission. In the text, a clear-cut societal change or impact—Y—was established. Further, key events leading to the impact were established as follows: A) a governmental commission was created, and the professor was awarded the position of chair and B) the recommendations of the commission received widespread public debate, and it is argued that the commission contributed to more public awareness and open discussions on contentious issues related to immigration and integration. This claim was not further substantiated, except that a follow-up commission was appointed a few years later.

A question remains as to whether it was the research of the professor (and her co-members) that led to the claimed changes in welfare policies, or instead, the policy initiative behind the establishment of the commission. Governmental commissions are key policy-preparing bodies, and their advice has a formal role in policymaking processes. Hence, becoming the chair of a commission leads to impact, independently of the epistemic contribution of the participation. In addition, it can be argued that appointing a researcher as chair of commissions is a typical step to bolster the credibility of the commission.

The impact case contains references to a set of research outputs, yet the referenced research is not by the professor; rather, it is the research of others. This research is obviously relevant to the commission, yet it suggests that it was not the professor's research that made an impact. Rather, it was the position as chair and the mandate of the commission that had an impact, and it can be argued that this impact was largely decided at the moment the commission was established. Hence, the impact argument is weak in terms of establishing that it is the research (X) and not the events (a) and other contextual factors (e.g. the political climate or the mandate of the commission) that generated the impact (Y; see Table 4).

Table 4. Logics of impact arguments—case of a symbolic research use

Impact argument	(X →)	a →	b →	Y
Events	(Research)	Appointment of commission	Public awareness	Policy reforms
Credibility markers	Expertise and references to research	Key policy preparing arena	(New commission)	Commission report

Conclusion and discussion

The aim of this chapter was to discuss the challenges of reporting and evidencing societal impact in the light of the instrumental, conceptual and symbolic research uses. While the challenges of measuring societal impact for evaluation purposes are well recognised in the previous literature (Bornmann, 2013; Martin, 2007), less focus has been placed on the challenges that researchers face when reporting their impacts, even when they are allowed to report in narrative form. By drawing on the literature on research utilisation (Boswell & Smith, 2017; Nutley et al., 2007; Weiss, 1979) and argumentative analysis (Hellström & Hellström, 2017), we introduced the distinction between the factual and rhetorical components of impact narratives. This allowed us to demonstrate the most typical challenges in building impact arguments in the light of three modes of research uses—instrumental, conceptual and symbolic. As such, the ways in which researchers attempt to solve 'the unresolvable' by striving to provide evidence about broader and more diffuse conceptual impacts, characteristic of social sciences, are made visible by unpacking how researchers build impact arguments in their narratives.

According to the literature on research uses, indirect and conceptual modes of research use are linked to deeper societal changes compared with the instrumental uses of research (Weiss, 1979, 1980). However, based on our findings, researchers encounter profound problems in trying to evidence conceptual impacts in impact case studies. In building causality and credibility into the cases, the ultimate challenge remained: In the case of conceptual impacts, the nature of the effects is too vague to be captured in a concrete manner. In the light of this study, changes in public understandings are among the most difficult conceptual impacts to demonstrate (cf. Weiss, 1979, 1980). This is particularly troublesome for sociologists who identify as contributors to 'public understandings' and as critical public voices (cf. Tellmann, 2021). However, because conceptual impacts are common in social sciences, the contribution of this study goes beyond sociology.

Our second finding relates to the perceived gap between the emphases on symbolic uses of research found in the literature on research utilisation (see Boswell, 2009; Daviter, 2015) and the absence of this type of research use reported in the impact cases. This is not surprising, given that researchers should demonstrate the scope and range of their societal impact. Yet, it points to the inherent bias in impact evaluations towards exaggerating instrumental uses of research while underestimating the symbolic uses of research.

Implications for research assessment

The UK REF, as the most established evaluation regime in the Western world, has influenced the ways impact evaluation is conducted across European countries. While the REF methodology in general has received much criticism, the study behind this chapter is the first to demonstrate the challenges of the impact case study methodology in the light of empirical analyses of impact case studies submitted for assessment purposes. By demonstrating the inherent biases of the impact case study methodology our further aim of the study is to stimulate additional reflection on the question of what kinds of research the impact methodology represents and encourages. It is not unreasonable to claim that researchers should provide evidence of their impact to make the claims more accountable. However, when conducting research assessments, it must be understood that including this claim could lead to researchers failing to report important and perhaps even more influential impacts. Research evaluation practices should appreciate the pluralistic nature of the ways research is interacting with society by taking care that evaluation practices do not encourage researchers to conduct research aiming at instrumental impacts at the cost of conceptual impacts.

While the impact cases indeed make the societal contributions of social sciences visible to the public and to funders of research, at the same time, there is much social science research that risks being overshadowed by research that can present more convincing impact arguments within the limits of the case methodology. Further studies should examine whether this only applies to sociology or whether it is also transferable to other disciplines. In any case, instead of idealistic aims, the criteria for assessing the societal impact of research should acknowledge the characteristics of uses of research and limits of their evaluation (cf. Bornmann, 2013; Martin, 2007). More specifically, direct uses of research should not be valued over harder to verify conceptual impacts in research assessments.

The second topic for further studies, arising from the empirical data of this study, comprises the effects of evaluation and country context for reporting impacts for evaluation

purposes. We noticed that sociologists in the United Kingdom, in an evaluation context where allocation of funding is linked to evaluation, paid more attention to *credibility markers* (Derrick & Benneworth, 2020), such as numbers, indicators, quotes and testimonials, as well as efforts to construct causality into the case studies, than did their peers in Norway, where impact evaluation has no connection to the allocation of funding. This also poses a critical question concerning the effect of linking funding to evaluation and its effects on the nature of impacts reported: Would there be more room for reporting conceptual impacts, the ones characterising sociological ways of knowing, if researchers did not need to back their narratives with evidence? Ensuring that the assessment of the societal impact of research is based on the logic of research rather than external needs of monitoring and governance is a key to ensuring diversity in science. This is a crucial task in terms of the research assessment practices: Structures designed originally to stimulate research and impact should not turn against themselves.

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