

A Framework for Impact Evaluation in Grant Applications Policy Brief version 1.1

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1.0 Executive Summary

Impact assessment is challenging. It is because the notion of impact encompasses a wide range of events and changes: some smaller in scale, some wider in scope; some focus on local communities, some aim at solving global challenges; some can be achieved tomorrow, while others may take decades or generations to be realised. Impact assessment is challenging also because it is often not clear as to what kinds of impact are expected and deemed valuable amongst the wide and varied, tangible and intangible societal benefits derived from the pursuit of knowledge. Studies have shown that impact assessments in grant applications can be biased, inconsistent and random. Hence, there is a need to provide clear guidance for grant applicants to prepare impact statements, and more importantly, a rubric for reviewers to avoid arbitrary and erroneous judgments and to ensure fairness and transparency in *ex ante* impact assessments.

To develop a framework for impact evaluation in grant applications, a study has been conducted to understand what kinds of impact can be achieved within a timeframe based on the Logic Model. The study shows that long-term impacts are rarely reported, while many case studies demonstrate outcomes (e.g., uptake of research in policy documents) and medium-term impacts (e.g., changes in professional or local practices). These outcomes and impacts can be categorised as use- and experience-based for which evaluative criteria should be designed accordingly. We propose a framework for impact evaluation in grant applications with the following recommendations:

- (a) Impact statements in grant applications can include outputs, outcomes, and medium-term impacts as potential impacts;
- (b) Long-term impacts cannot be predicted or evaluated in grant applications;
- (c) Process-oriented impacts should be placed more significance than outcome-oriented impacts;
- (d) Impact assessment is unnecessary or inappropriate for some funding programmes.

Templates of impact evaluation (Appendix) are created for adaption in accordance with the needs and objectives funding programmes.

A Framework for Impact Evaluation in Grant Applications

Type of funding programme	Basic	Societal Challenges	Collaboration	Public Engagement
Aim of funding programmes	Support basic and curiosity-driven research	Address societal challenges, including SDGs and/or national priorities	Encourage collaboration between academia and industry, NGOs and other stakeholders	Enrich cultural understanding and experience and/or promote science communication
Impact assessment?	No	Yes	Yes	Yes
What to assess?	N/A	<p>The societal challenges and national priorities the research project aims to address;</p> <p>The beneficiaries, practices, or policies the research project aims to inform, influence, or change</p>	<p>The outputs, expected use-based outcomes of the collaboration;</p> <p>Expected experience-based outcomes and impacts can also be included;</p> <p>The potential of longer-term collaboration;</p> <p>The societal challenges and national priorities the collaboration aims to address</p>	<p>The processes and activities the research project plans to undertake;</p> <p>The expected experience-based outcomes of the activities;</p> <p>The collaborators and participants of the proposed activities</p>

2.0 Introduction

Impact statements are often required and evaluated in grant applications. In these statements, researchers are expected to detail the potential impacts of their proposed research study. For some funding programmes, the impact statements assist in the overall evaluation of the research proposal, but no score is assigned [1,2]. For many funding programmes, a score is allocated to the impact statement, meaning that the impact statement can be a significant factor in the decisions of funding allocation. The impact requirement in grant applications is to demonstrate the benefits of investment in research and scholarship. However, impact is usually broadly defined¹ and there is little guidance as to what should be included in an impact statement, nor is there a rubric of *ex ante* impact assessment for reviewers. Previous studies have shown that impact assessments in grant applications can be biased, inconsistent and random [3,4]. Recently, a study of reviews of impact statements for the SFI Investigators Programme 2014-2016 further shows that reviewers have different conceptions of impact in their evaluation [5]. There is a need to provide clear guidance for grant applicants in preparing impact statements, and more importantly, a rubric for reviewers to avoid arbitrary and erroneous judgments and to ensure fairness and transparency in *ex ante* impact assessments.

The Logic Model Development Guide published by the Kellogg Foundation [6] has been adapted in the discussion of societal impact of research, including stages of outputs, outcomes, and impacts:

- **Outputs** are direct products of program activities and may include types, levels and targets of services to be delivered by the program
- **Outcomes** are the specific changes in program participants' behavior, knowledge, skills, status, and level of functioning
- **Impact** is fundamental intended or unintended change occurring in organizations, communities or systems as a result of program activities within 7-10 years

These definitions have been used to depict the impact journey of research (Figure 1). Similar to the Payback Framework [7], the first three stages are mainly concerned with research activities, including the production of research outputs, whereas the outcome stage indicates the uptake of research such as citations in non-academic publications and media coverage. These outcomes are considered as processes or steps towards impacts but are not impacts themselves—for 'impacts' in the Logic Model indicate wider cultural, economic, educational, environmental, health, political, social, and/or technological changes and influences in society.

Long-term impacts, however, can take a long time to achieve. Previous studies have demonstrated that there are many challenges in evidencing long-term impacts, including issues of attribution, causality, the counterfactual argument, and the time lag between outputs and impacts [2, 8].

¹ For example, the UCD Impact Toolkit (<https://www.ucd.ie/impacttoolkit/whatisimpact/>) defines societal and economic impact as 'the demonstrable contribution that excellent research makes to society and the economy, of benefit to individuals, organisations and nations.'

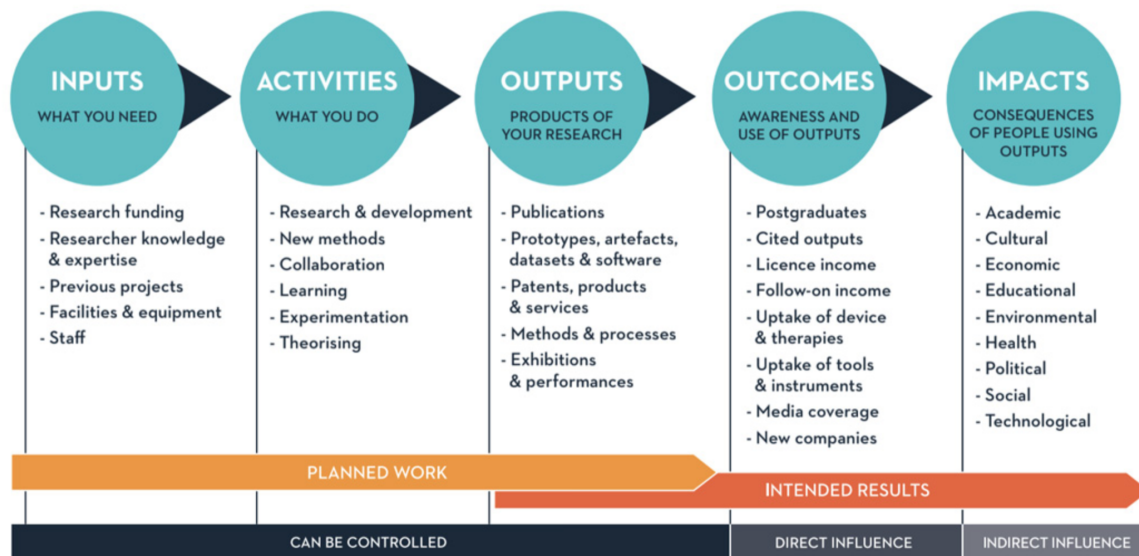


Figure 1 The Impact Journey (UCD Research Impact Toolkit - <https://www.ucd.ie/impacttoolkit/whatisimpact>)

To establish a framework for *ex ante* impact assessment, it is necessary to understand what kinds of impact can be achieved within a certain timeframe. A study [9] has been conducted to examine the types of impact reported in the UK REF2014 Impact Case Studies (Section 2), followed by a mapping between types of impacts and funding programmes (Section 3). Templates for *ex ante* impact assessment are then developed for future adaptation (Appendix).

3.0 Analysis of Impact²

The ex-post impact case studies submitted for the UK REF2014 are openly accessible. These impact case studies represent the understanding and perception of societal impacts by researchers, scholars, and universities, on the one hand, and the kinds of societal impact they could create and achieve within a certain timeframe, on the other. A study has been conducted to examine the narratives of impact in these case studies. The following findings are used to inform the development of *ex ante* impact assessment framework:

- (1) Narratives of impact reported include outputs, outcomes, and impacts in the Logic Model. Many case studies demonstrate outcomes (e.g., uptake of research in policy documents) and medium-term impacts (e.g., changes in professional or local practices), but long-term impacts are rarely mentioned likely due to the timeframe of the UK REF cycle (2008-13).
- (2) The outcomes and impacts can be categorised as *use-based* and *experience-based*. Use-based outcomes and impacts are evidenced by adaptation and use, whereas experience-based outcomes and impacts indicate influences and broader understanding, usually without concrete evidence due to the nature of activities and research (see Table 1).
- (3) There is a lack of description of impact activities, for example, process of knowledge translation and knowledge co-creation.

² The study is partly funded by Science Foundation Ireland (17/SPR/5319). The full article has been accepted for publication in *Science and Public Policy* (In press DOI: 10.1093/scipol/scab080).

Table 1 Use-based and Experience-based outcomes and impacts

	Outcomes	Impacts
Use-based	Uptake of research, for example: <ul style="list-style-type: none"> repeatedly referred to in parliamentary debates used by several local authorities/councils guided and featured in several flagship TV documentaries 	Changes in practices and policies, for example: <ul style="list-style-type: none"> the implementation of renewable energy solutions to power remote local communities procedures adopted in many other parts of the world the number of adults living in households without access to a bank account fell from two million to 890,000
Experience-based	Indication of influences in specific contexts, for example: <ul style="list-style-type: none"> a key advisor to all three main political parties, civil servants, MPs stimulated projects and policy changes influential in the crafting of the legislation 	Broader understanding and awareness, for example: <ul style="list-style-type: none"> global awareness of human prehistory a deeper understanding of public art changing attitudes and increasing recognition about sustainability

The reason that the impact case studies are mainly consisted of outcomes and medium-term impacts is possibly due to the limited timeframe, as one case study describes:

Given the recent timing of the interventions in Cape Town and other provinces, it is premature to measure the impact of the Ukwazana programme in terms of the number of lives saved or transformed sexual practices, but the very fact that Anova decided to replicate the programme is an indicator of the social receptivity and relevance of the interventions.

The impact case study can only demonstrate the take-up of the research, i.e., outcomes, however its longer-term impacts can only be anticipated. Hence, the actual impact claim in the case study is that the research project had ‘influenced the ways in which Health4Men engaged with and worked with volunteer and outreach workers’ (i.e., experience-based impact).

Further, the study finds that research projects that aim to resolve a specific challenge or societal issue tend to indicate **use-based** outcomes and impacts with their beneficiaries clearly identified, e.g., a population in specific regions at risk of flooding. However, many impact case studies demonstrate **experience-based** impacts that are difficult to trace and track, for example, an impact case study states:

The exhibition had an impact on multiple audiences as substantiated by the large visitor numbers, the success of the schools' programme, community outreach workshops, curatorial tours and study days, the subsequent interest in the use of these experimental techniques by museum/academic institutions overseas, and extensive coverage internationally in the traditional media and on the internet.

This impact case study describes the activities carried out to achieve impacts with supporting figures, however, it does not indicate actual impacts of their work. It is undeniable that, however, their impact activities should be taken into account in impact assessments. Hence, a formative approach that focus process-oriented impacts, i.e. impact activities, would be more appropriate for evaluating experience-based impacts.

4.0 Proposed Framework for Impact Evaluation in Grant Applications

The analysis of case studies shows that outcomes and medium-term impacts are most frequently reported in impact case studies, meaning that long-term impact cannot be expected during a grant period and is not necessary and even inappropriate to be assessed in grant applications. The study also shows that a one-size-fits-all concept of impact is not useful for evaluating impact statements, especially if the aim of a funding programme is to stimulate immediate and tangible outputs and outcomes. For the framework of *ex ante* impact assessments, the following considerations have been taken into account:

- (e) Impact statements in grant applications can include outputs, outcomes, and medium-term impacts as potential impacts;
- (f) Long-term impacts cannot be predicted or evaluated in grant applications;
- (g) Process-oriented impacts should be placed more significance than outcome-oriented impacts;
- (h) Impact assessment is unnecessary or inappropriate for some funding programmes.

Four main types of funding programmes are considered: (i) basic, curiosity-driven research; (ii) societal challenges, national priorities; (iii) collaboration, non-governmental organisations and industries; (iv) public engagement and science communication.

For funding programmes that support **basic and curiosity-driven research**, the purpose is to provide intellectual space and resources for exploring questions that are deemed important and challenging by the research community. Although the proposed research may not directly address a crisis or create a product, they may lead to more far-reaching societal impacts in the long term. It is hence inappropriate and unnecessary to predict *actual* societal impacts that a research project may generate.

For funding programmes that address **global and societal challenges and/or national priorities**, the long-term societal impacts have already been identified by the funding agencies. As such, it would be appropriate for applicants to articulate which global or societal challenges the research projects will address, and where possible, provide examples of policies and practices the research project may change or influence.

For funding programmes that encourage **collaboration between academic research and non-governmental organisations (NGOs)**, there are immediate societal challenges and issues to be resolved. The evaluation of impact statement in these instances should hence focus on the expected use-based and/or experience-based outcomes of the collaboration. For those that encourage **collaboration between academic and industry**, the goals can be relatively short-term, for example, the development of products, patents, licences, and so on—that is, outputs in the Logic Model.

For funding programmes that promote **public engagement and science communication**, the aim is to enrich cultural experiences and cultivate scientific and innovative minds. The long-term societal impacts and their beneficiaries are largely unknown and cannot be predicted. Hence, it would be appropriate to assess the planned activities, the expected outcomes as well as existing and potential collaborators and participants in the intermediate term. While the long-term societal impacts and their beneficiaries cannot be predicted or evidenced, activities and plans to reach out to targeted audience via different channels can be assessed.

A framework for impact evaluation in grant applications is summarised in Table 2. This framework can be adapted with considerations of the objectives of specific funding programmes for the development of evaluative criteria. Based on the impact case study analysis, it is also suggested that process-oriented impacts are more appropriate for evaluating experience-based impacts—that is, impact activities should be considered when evidence of impact is difficult to track and record.

Table 2 A Framework for Impact Evaluation in Grant Applications

Type of funding programme	Basic	Societal Challenges	Collaboration	Public Engagement
Aim of funding programmes	Support basic and curiosity-driven research	Address societal challenges, including SDGs and/or national priorities	Encourage collaboration between academia and industry, NGOs and other stakeholders	Enrich cultural understanding and experience and/or promote science communication
Impact assessment?	No	Yes	Yes	Yes
What to assess?	N/A	<p>The specific societal challenges and national priorities the research project aims to address;</p> <p>The beneficiaries, practices, or policies the research project aims to inform, influence, or change</p>	<p>The outputs, expected use-based outcomes of the collaboration;</p> <p>Expected experience-based outcomes and impacts can also be included;</p> <p>The potential of longer-term collaboration;</p> <p>The societal challenges and national priorities the collaboration aims to address</p>	<p>The processes and activities the research project plans to undertake;</p> <p>The expected experience-based outcomes of the activities;</p> <p>The collaborators and participants of the proposed activities</p>

5.0 Conclusion

Impact statements in grant applications are instrumental for showcasing the alignment between a proposed research study and the aims and objectives of a funding programme. They can also inculcate a research culture in which the pursuit of knowledge is in, with and for society. Therefore, the evaluation of impact statements in grant applications should be fair and transparent. In this policy brief, a framework for impact evaluation in grant application has been proposed based on two studies: an analysis of reviewers' comments on impact statements [5] and an analysis of impact case studies [9]. Templates included in the Appendix can be adapted to suit the needs and objectives of funding programmes.

References

- [1] Langfeldt, L., and Scordato, L. (2015) 'Assessing the Broader Impacts of Research: A Review of Methods and Practices', *NIFU Working Paper 8/2015*. Oslo: Nordic Institute for Studies in Innovation, Research and Education.
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- [3] NABI (National Alliance for Broader Impacts). (2018) 'The Current State of Broader Impacts: Advancing Science and Benefiting Society.' Accessed October 9, 2019, from <https://broaderimpacts.net/wp-content/uploads/2018/01/nabi-current-state-of-bi-011118.pdf>

[4] European Science Foundation. (2012) 'The Challenges of Impact Assessment.' Accessed October 9, 2019, from <http://archives.esf.org/coordinating-research/mo-fora/evaluation-of-publicly-funded-research.html>

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[6] Kellogg Foundation (2004). Logic Model Development Guide: Using Logic Models to Bring Together Planning, Evaluation, and Action. Accessed October 9, 2019, from <https://www.aacu.org/sites/default/files/LogicModel.pdf>

[7] Donovan, C., and Hanney, S. (2011) 'The "Payback Framework" Explained', *Research Evaluation*, 20/3: 181-183.

[8] Penfield, T., et al. (2014) 'Assessment, Evaluations, and Definitions of Research Impact: A Review', *Research Evaluation*, 23/1: 21-32.

[9] Ma, L., and Agnew, R. (under review) 'Deconstructing Impact: A Framework for Evaluating Impact in Grant Applications'

Appendix: Templates for Impact Evaluation in Grant Applications

Template A: Funding programmes that address societal challenges / national priorities

	Excellent	Good	Average	Acceptable	Poor
Indication of societal/global challenges and/or national priorities					
Potential Impact on professional practices and/or policies that addresses societal/global challenges indicated					
Existing/potential relationship with stakeholders					
Potential beneficiaries during grant period					
Barriers to impacts					
Overall score					

Comments

Strong points of the impact statement:

Areas that could be improved:

Template B:
Funding programmes that support collaboration with industry

	Excellent	Good	Average	Acceptable	Poor
Expected outputs and/outcomes of the collaboration					
Potential long-term collaboration					
Existing/potential relationship with industry partners					
Potential beneficiaries during grant period					
Barriers and/or risks					
Overall score					

Comments

Strong points of the impact statement:

Areas that could be improved:

Template C:
Funding programmes that support collaboration with NGOs and charities

	Excellent	Good	Average	Acceptable	Poor
Expected outputs and/outcomes of the collaboration					
Alignment of research project and mission of the NGO/charity					
Existing/potential relationship with stakeholders					
Potential beneficiaries during grant period					
Barriers to impacts					
Overall score					

Comments

Strong points of the impact statement:

Areas that could be improved:

Template D: Funding programmes that promote public engagement

	Excellent	Good	Average	Acceptable	Poor
Impact activities					
Promotion activities					
Existing/potential relationship with stakeholders and partners					
Potential beneficiaries during grant period					
Barriers to impacts					
Overall score					

Comments

Strong points of the impact statement:

Areas that could be improved: